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TRENDS IN THE OHIO SWEET CORN INDUSTRY, 1918-1960

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OHIO AGRICULTURAL EXPERIMENT STATION

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TRENDS IN THE OHIO SWEET CORN INDUSTRY: 1918-1960

Donald C. Huffman and M. E. Cravens

INTRODUCTION

This study was designed to describe and to analyze the general trends of the Sweet Corn Industry in Ohio with regard to production, acreage, yield per acre, price, utilization and consumption for the period 1918 to 1960.

Sweet corn production, like that of many other vegetables, is marketed in both fresh and processed forms. Because of the different natures of these two types of markets, they will be analyzed separately in in most instances.

DEFINITIONS

Most of the data were obtained from publications of the U. S. Department of Agriculture, and follow U.S.D.A. definitions.

Commercial processing includes production for commercial canning, freezing, pickling and other processing, exclusive of dehydration. The estimates of vegetables for commercial processing do not include production for home canning or freezing. Neither do they include quantities processed by institutions.

Season average prices received by growers for commercial processing are weighted average prices for all grades and all methods of sale as reported by the U. S. Department of Agriculture.[1]

Commercial vegetables for fresh market (in this case, sweet corn) includes all fresh market production from acreage grown primarily for sale. Production for local markets is included as well as production for shipment to distant markets.[2]

TRENDS IN TOTAL SWEET CORN PRODUCTION

United States

Total production of sweet corn in the United States has had an upward trend. Available data indicate that total production fluctuated without a noticable trend at a level somewhat less than 1,000,000 tons annually from 1918 until 1934. From 1935 until 1954 a rather steady upward trend in production occurred, after which it tended to level off between 2 and 2.5 million tons annually.

The North Central region has consistently been the largest sweet corn producing area since 1929. In 1954 this region accounted for 38.8 percent of farms reporting and 51.8 percent of the total acreage of sweet corn produced in the United States (Table 1).

Ohio

Since 1929 tomatoes and sweet corn have been the most valuable field vegetables in Ohio. In 1929 sweet corn in Ohio had an approximate value of $694,000, while tomatoes had a value of about $631,000. Together they accounted for 69.7 percent of the value of all processing vegetables produced. In 1958 tomatoes and sweet corn still remained the two most important vegetable crops in Ohio. Tomatoes accounted for about 47 percent while sweet corn had declined to about 14 percent of the total value of vegetable production.[3]

The number of farms reporting sweet corn in Ohio increased substantially during the period from 1920 to 1935, after which the number decreased considerably until 1955 when the number was less than half as great as in 1920. Acreage of sweet corn in Ohio has declined less than has producer numbers. The average number of acres per farm has fluctuated considerably but has increased from 2.9 acres per farm in 1920 to 4.4 acres per farm in 1955 (Table 2).

Ohio is divided into nine Crop Reporting districts as shown in Figure 1. The central district has had the the largest percent of harvested acreage since 1939, varying between 20 and 31 percent of the state total. Following in order of importance are the southwest, north central, and northeast districts. About three-fourths of the total Ohio acreage of sweet corn was within these four districts. The central district was composed of relatively large producers while the northeast district is characterized by many small producers (Table 3).

Ten of the twelve plants processing sweet corn in 1955 were located in the central and southwestern counties (Figure 1). It is reasonable to assume that

[1]Taken from Commercial Vegetables, Fresh Market, Bulletin No. 126, May, 1953, U.S.D.A.

[2]Taken from Commercial Vegetables, Fresh Market, Bulletin No. 126, May, 1953, U.S.D.A.

[3]Data for 1929 include production for processing only whereas 1958 data include production for both fresh market and processing.

most of the production in the north central and northeastern counties is for the fresh market since only one processing plant was operating in that section of the state in 1955.

In 1954 the ten Ohio counties having the largest harvested acreage of sweet corn accounted for 49.4 percent of the state's total acreage (Figure 1). Although a few counties such as Pickaway, Erie, Lucas, Hamilton, and Huron have consistently ranked among the top ten counties in every census-year since 1939, the relative position of all counties has shifted considerably from year to year. The acreage harvested also shows a wide variation within counties from one census-year to another.

In Ohio, even more so than in the United States, the proportion of total production (tonnage) devoted to the fresh market has increased considerably since 1949. The proportion of total production in the state grown for the fresh market increased from about 36 percent in 1949 to about 60 percent of the total in 1955. In 1959 over 75 percent of the Ohio acreage was devoted to the fresh market. Part of the shift in Ohio is due to the closing down of some of the processing plants which had previously obtained sweet corn through contracting with growers before planting. Figure 2 shows the distribution of the sweet corn crop between harvesting for processing and for fresh market in the United States and Ohio by acreage, total tonnage, and farm value.

Table 1

Sweet Corn Harvested for Sale: Percent of Total Farm Reporting and Acreage by Geographic Regions and States, 1930-1955

Geographic Regions and States	Sweet Corn											
	Farm Reporting						Acreage					
	1954	1949	1944	1939	1934	1929	1954[1]	1949	1944	1939	1934	1929
	Percent						Percent					
U. S., Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Middle Atlantic and New England	26.1	26.5	30.0	33.0	38.5	35.3	26.3	19.6	23.3	26.7	26.6	25.3
North Central	38.8	38.0	37.9	36.9	33.0	31.8	51.8	51.3	55.7	48.7	50.2	50.1
South Atlantic	16.4	17.6	18.9	15.2	14.8	17.0	13.6	12.7	10.5	12.8	12.6	14.8
South Central	n.a.	8.5	7.6	6.6	6.6	8.5	n.a.	5.9	5.0	5.1	5.1	4.9
Western	4.0	5.1	2.5	4.9	7.0	7.4	10.4	7.0	3.3	5.0	5.5	4.9
North Central	38.8	38.0	37.9	36.9	38.5	35.3	51.8	51.3	55.7	48.7	50.2	50.1
Ohio	6.3	5.8	6.1	8.0	9.9	7.5	3.2	3.8	5.2	7.3	9.0	7.8
Indiana	3.7	3.6	3.6	4.9	4.2	4.0	4.2	4.8	5.4	8.4	7.4	6.5
Illinois	4.0	3.7	4.0	4.5	3.5	4.0	9.5	10.7	9.9	10.8	12.5	13.4
Michigan	5.3	5.2	4.7	5.2	5.4	4.0	2.3	2.2	2.6	2.9	3.5	2.9
Wisconsin	10.5	10.0	8.4	4.7	2.7	2.3	14.3	15.0	12.6	5.0	2.7	2.2
Minnesota	6.3	4.3	4.8	4.0	2.6	2.8	14.0	10.2	12.9	9.2	8.4	7.8
Iowa	2.8	2.3	3.6	2.2	2.7	3.0	4.2	3.2	5.7	3.0	5.3	7.0
Missouri	n.a.	1.5	1.0	1.2	0.9	1.8	n.a.	0.4	0.5	0.6	0.6	0.7
N. Dakota	n.a.	0.1	0.1	0.2	--	0.1	n.a.	--	--	--	--	--
S. Dakota	n.a.	0.2	0.2	0.3	0.1	0.2	n.a.	--	--	0.2	0.1	--
Nebraska	n.a.	0.5	0.6	0.8	0.2	0.8	n.a.	0.4	0.4	0.8	0.2	1.1
Kansas	n.a.	0.8	0.7	0.7	0.6	1.2	n.a.	0.4	0.4	0.4	0.4	0.6

[1]Preliminary

n.a. Not available

-- less than 0.1%

SOURCE: Agriculture Census from 1930 to 1955

Table 2

Sweet Corn Harvested for Sale, In Ohio, 1920 to 1955

Item	1955	1950	1945	1940	1935	1930	1925	1920
Farms Reporting	4,479	5,690	7,928	7,742	19,585	11,648	12,848	9,712
Acreage	19,945	23,696	34,814	29,423	49,724	37,562	34,061	27,902
Acres per farm reporting	4.4	4.2	4.4	3.8	2.5	3.2	2.6	2.9

SOURCE: 1950 and 1955 Agricultural Census

Table 3

Sweet Corn Acreage Harvested, By Districts: 1939 – 1954

District	1954		1949		1944		1939	
	Farms Reporting	Acreage	Farms Reporting	Acreage	Farms Reporting	Acreage	Farms Reporting	Acreage
North West	386	1,793	491	2,093	651	3,130	781	2,838
North Central	634	3,859	744	3,917	1,054	6,210	1,148	5,825
North East	1,332	3,791	1,708	3,774	2,567	5,251	2,287	4,170
West Central	188	620	210	866	229	1,524	339	1,351
Central	435	4,072	784	7,340	966	8,513	910	7,216
East Central	281	453	284	444	256	430	323	509
South West	606	3,643	718	3,701	1,180	7,664	1,008	5,972
South Central	262	855	312	640	515	1,107	515	795
South East	355	862	433	921	519	991	431	747
State Total	4,480	19,943	5,690	23,696	7,928	34, 814	7,742	29,423

SOURCE: Agriculture Census, 1940 – 1955

TRENDS IN SWEET CORN FOR COMMERCIAL PROCESSING

An average of the period from 1953 to 1955 shows that about 69 percent of the U. S. total production of sweet corn was for commercial processing while the remaining 31 percent was channelled through the fresh market. During the same period the proportions of the Ohio production for commercial processing and fresh market were about equal. However, in 1959 and 1960 less than 25 percent of Ohio's production was used by processors.

The central states have accounted for 60 to 80 percent of the United States production of sweet corn for processing since 1918. The eastern and central states accounted for almost the entire production until about 1935. Since that year the western states have increased their share of the total U. S. production at the expense of both the central and eastern states. In 1955 the western states produced over 14 percent of the nation's sweet corn utilized for processing (Figure 3) [4]

Total production of sweet corn for processing in the United States appeared to fluctuate in cycles of 5 to 7 years from trough to trough but showed no general trend from 1918 to 1933. The peak production for that period was over one million tons in 1925 and the low was 387,200 tons produced in 1932. The period 1934-1942 was one of rapid increase in the production of sweet corn for processing. Production increased from 398,000 tons in 1934 to 1,282,500 tons in 1942, an increase of 2.6 times. National production continued to increase, but at a much slower rate until 1953 after which it tended to level off between 1.4 and 1.5 million tons annually.

All of the western states as well as the midwestern states of Minnesota and Wisconsin have had sizable increases in production, both in tonnage and in percentage of the national production. The trend in production for processing for the United States, and selected states is shown in Figure 3.

The relative position of Ohio among the states producing sweet corn for processing has declined. In 1918 Ohio ranked fourth, surpassed only by Iowa, Illinois and Maryland; but by 1955 Ohio had declined to the fourteenth position. Ohio produced 12.3 percent of the total U. S. production in 1918, 10.9 percent in 1925, 5.7 percent in 1942, 1.8 percent in 1955, and only 1.2 percent in 1960. Ohio has also declined in tonnage produced as shown in Figure 3. The highest production for processing during the 1918-1960 period for Ohio was in 1925 when over 110,000 tons were produced. The production was lowest at the depth of the depression in 1932 and 1933 and during the later 1950's when less than 20,000 tons were produced annually.

Production of sweet corn for processing in Ohio during the period 1918-1960 shows cyclical movements very similar to those of the United States. From 1921 to 1958 production of sweet corn in the U. S. as well as in Ohio, has experienced six complete cycles with

[4] Western states – Pacific and mountain states
Central states – Midwestern and plain states
Eastern states – New England, middle Atlantic and East coast states

Table 4

Canned Sweet Corn: Percentage of Cases Packed in the United States by Major Can Sizes, 1935 – 1955

YEAR	8 – oz.	No. 1 Picnic	Vacuum 12 – oz.	No. 303 and 300	No. 2	No. 10	Other
	Percent	Percent	Percent	Percent	Percent	Percent	Percent
1935	0.4	4.4	---	9.2	74.6	4.5	7.0
1936	.1	3.1	8.1	5.6	78.8	3.9	.4
1937	.4	3.4	9.3	10.9	72.1	3.8	.1
1938	.5	2.9	9.0	5.2	77.4	4.8	.2
1939	.4	3.3	16.0	8.6	68.0	3.6	.1
1940	.5	3.2	17.0	9.7	63.2	5.7	.7
1941	.4	3.9	12.4	10.9	65.9	5.6	.9
1942	---	1.2	11.3	4.8	77.5	4.1	1.1
1943	---	.1	14.4	.5	79.8	3.8	1.4
1944	---	.1	16.8	---	78.7	4.2	.2
1945	---	---	18.1	---	77.7	3.4	.8
1946	---	---	20.7	---	76.3	2.8	.2
1947	.2	1.8	19.7	8.8	64.3	5.1	.1
1948	1.1	4.1	20.5	25.4	43.4	5.3	.2
1949	4.6	5.0	19.1	37.5	26.2	7.4	.2
1950	8.0	3.0	20.1	58.0	6.4	4.4	.1
1951	8.1	1.8	18.1	61.3	4.4	6.1	.2
1952	8.0	.9	18.2	64.1	1.1	7.5	.2
1953	8.7	.7	16.8	64.0	.2	9.3	.3
1954	10.1	.6	21.5	61.6	---	6.0	.2
1955	8.7	.4	24.9	60.6	---	5.1	.3

SOURCE: The Vegetable Situation, TVS – 119, Feb. 2, 1956, A. M. S., U.S.D.A.
Basic data from National Canner's Association.

Table 5

Frozen Packs of Sweet Corn In The U. S.: 1949 – 1958

(Millions of Packs)

Year	Cut Corn				Corn-On-Cob			
	U.S.	East and South	Mid-West	West	U.S.	East and South	Mid-West	West
1949	37.1	10.5	7.0	19.6	17.6	4.5	3.1	10.0
1950	33.0	14.2	4.9	13.9	10.1	4.5	1.5	4.1
1951	44.5	13.6	6.3	24.6	8.8	3.9	1.3	3.6
1952	62.6	15.6	12.3	34.8	14.2	3.5	2.6	8.2
1953	104.8	21.3	18.3	65.3	17.2	4.4	2.6	10.2
1954	78.2	14.6	21.3	42.2	16.8	2.7	5.0	9.0
1955	70.0	14.9	26.9	28.2	6.9	1.0	1.6	4.3
1956	118.2	28.6	36.1	53.5	20.4	3.0	3.6	13.7
1957	112.9	19.7	37.4	55.8	13.7	2.8	4.1	6.8
1958	111.0	29.5	27.8	53.7	10.4	2.1	3.6	4.6

SOURCE: Frozen Food Pack Statistics, Part 2 – Vegetables 1953 – 1958,
National Association of Frozen Food Packers.

YIELD PER ACRE

Yields of sweet corn for fresh market were reported in units of five dozen ears which is approximately 50 pounds. Using the 1950-1960 average, Florida leads in yield per acre for the fresh market with 151 units followed by California with 139 units, Michigan with 131, Massachusetts and New York each with 121, Ohio and Illinois each with 118. The U. S. average yield for the same period was also 118 units (Table 6).

Prior to 1954 Ohio growers selling to the fresh market obtained higher yields than those selling to processors but since that time the yields have been about the same. Ohio's fresh market sweet corn yields have not increased as much proportionately the past few years as some of the other states and the national average (Figure 16).

PRICE

The price of fresh sweet corn varies considerably from year to year, from week to week during the season, and also between markets during any week. Price differentials are due to factors such as quality, type, and market conditions, i.e. the supply of and demand for sweet corn. It may be seen in Figure 17 that higher prices for fresh sweet corn are generally received by Ohio producers than by those in the neighboring states.

Ohio sweet corn for fresh market generally starts moving to markets in the major cities about the first week of July. Generally, the price starts out high and declines rather rapidly during the first two or three weeks of the season, levels off, then rises again during the latter part of the season. Figures 18, 19, and 20 present the patterns and level of prices on the Cleveland, Cincinnati, and Columbus, Ohio markets for the years 1959 and 1960.

The practice of icing or precooling sweet corn before marketing is becoming quite common as a means of maintaining quality. The premium paid for pre-iced sweet corn ranged from 2 cents to 22 cents per dozen ears on the Columbus market during the 1959 and 1960 seasons. The usual range was from 7 cents to 10 cents per dozen (Figure 21).

VALUE

Since 1949 the U. S. acreage of sweet corn for fresh market has remained fairly constant while the value of production has increased by one-third (Figure 22).

Both production and value of sweet corn for fresh market in Ohio has about doubled since 1949 (Figure 23). However, the average value per acre in terms of 1947-49 dollars has declined from $181 in 1949 to $153 per acre in 1959 (Figure 24). The value per acre of fresh market sweet corn in Ohio is about triple

Table 6

Sweet Corn for Fresh Market – Yield Per Acre, in Selected States, 1950 – 1960

(in units of 5 dozen ears)[1]

State	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	11 year average
U.S. Average	102	106	106	114	116	126	128	122	126	124	128	118
California[2]	124	114	126	154	143	139	135	155	150	155	135	139
Florida[3]	120	124	144	150	136	200	200	134	150	136	164	151
Illinois	110	120	120	116	90	120	130	116	130	120	120	118
Massachusetts	100	110	110	120	120	120	120	130	130	130	140	121
Michigan	96	110	130	140	150	140	130	130	140	130	140	131
New Jersey	84	90	84	100	110	80	130	116	130	160	140	111
New York	132	120	120	114	114	114	134	130	110	120	120	121
Ohio	116	124	110	116	116	120	110	110	120	120	130	118
Pennsylvania	76	100	88	76	104	100	100	100	120	110	110	99
Texas	84	76	70	84	76	90	70	90	100	100	90	85

[1] Converted from cwt. into units of 5 doz. ears. (50 lbs.)

[2] Average yield of both Late Spring and Early Summer Crops.

[3] Yield in the season of largest crop (early Spring).

SOURCE: "Commercial Vegetables" for Fresh Market Annual Summaries – Bureau of Agricultural Economics, U.S.D.A., 1950-1955 from Revised Estimates in Vegetables for Fresh Market, 1949-1955, Statistical Bulletin No. 212, U.S.D.A.

an average length of 5.7 and 6.0 years respectively from trough to trough. The year 1955 was the last trough experienced for the U. S. whereas 1958 was the last trough for Ohio production.

VARIETIES USED FOR PROCESSING

There has been a rapid shift from white varieties to yellow varieties in the United States and in Ohio since 1943. In Ohio, from 1939 to 1942 a larger acreage of sweet corn for processing was planted to the white varieties. In 1942 only 30 percent of the Ohio acreage was planted to the yellow varieties while the white varieties (Evergreen, Narrow Grain, and Country Gentleman) accounted for the rest. By 1955 the acreage of yellow varieties had increased to 93 percent of the total (Figure 4). Other states such as Wisconsin, Minnesota, and Washington have even smaller percentages to the white varieties.

YIELD PER ACRE

Sweet corn yields were characterized by sizable variations from one year to another. The general trend in yields for sweet corn for processing was one of decline from 1919 until the mid-thirties and rising since then. The rise was particularly rapid during the 1944 to 1954 period.

Yields of sweet corn for processing in the state of Washington, where irrigation is usually practiced, were higher than those for other states (Figure 5). Yields in Ohio were generally lower than the U. S. average. Ohio had an average yield of 2.9 tons per acre for processing compared with 3.5 tons for the U. S. during the 1955-1960 period.

Since 1944 the increase in yield of sweet corn in Ohio has been greater, relatively, than for either field corn or soybeans (Figure 6).

PRICES

The general trend in prices received by growers of sweet corn for processing has been remarkably similar to that of the wholesale prices of all commodities. Throughout the 1918-1960 period the season average price per ton received by producers in the states of Ohio, Wisconsin, and Minnesota has been nearly the same. Sweet corn producers in the state of Washington have consistently received higher prices than those received by midwest producers or the average U. S. producer. Each year since 1918, Ohio producers of sweet corn for processing have received prices per ton equal to about 80 to 95 percent of the U. S. average (Figure 7).

VALUE

The value of a crop is determined by both price per unit and the quantity produced. When trends in value are being compared over a period of time, it is more meaningful to show value in terms of constant dollars than to show it in actual current prices. The disparity of these two values may readily be seen in Figure 8. The ratio as well as the magnitude of these two values fluctuate widely from one period to another. For instance, in 1931 the value of the Ohio crop for processing was approximately $750,000 in terms of 1931 dollars. However, in terms of 1947-49 dollars the 1931 crop was worth about $1,550,000.

Both the acreage and value of sweet corn for processing rose from World War I to the end of World War II, but since War II there has been a slight decline in both. During the 1918-1959 period, acreage for processing increased about 50 percent while value increased about 118 percent.

Since about 1940, the value per acre of sweet corn for processing has generally been slightly lower in Ohio than in Wisconsin and Minnesota. Washington producers have received nearly double the amount per acre received by midwestern producers (Figure 9).

In Ohio, field corn and soybeans have a greater value per acre than sweet corn for processing while the value per acre of sweet corn for fresh market is from two to three times as great (Figure 10). In Minnesota and Washington the returns per acre from sweet corn for processing compare more favorably with those from field corn. Sweet corn for processing in Wisconsin does not return as great a value per acre as field corn but is superior to the per acre value of soybeans. These comparisons indicate that Ohio growers are at an absolute disadvantage with those in other states in the production of sweet corn for commercial processing and that both field corn and soybeans represent more profitable alternatives to the average grower.

MARKETING MARGINS

The farmer currently receives approximately 14 percent of the retail price for canned sweet corn. Both the current retail and farm prices of sweet corn for processing declined from 1920 to 1933 and rose again during the 1934 to 1959 period (Figure 11).

When prices were expressed in terms of 1947-1949 dollars a continual decline was noted from about 1930 to the present. The farm price fluctuated between 2.3 and 4.5 cents per 3.03 pounds while the retail price of the number 2 can (3.03 lbs.) declined from about 28 cents in 1930 to 18 cents in 1958 (Figure 12). During this period the percent of the "constant dollar" retail price absorbed in the processing and marketing process declined.

TRENDS IN THE PROCESSING OF SWEET CORN

The total pack of sweet corn in the United States increased from 6.5 million cases in 1908 to about 27 million cases in 1958. The midwestern region accounts for about three-fourths of the total. Since 1937, the midwestern and western regions have been increasing their proportions of the total pack while the eastern region has been declining (Figure 13).

The relative importance of Ohio's sweet corn processing industry has been steadily diminishing. Since 1932 the proportion of the U. S. total sweet corn pack produced by Ohio has ranged from 9.0 percent in 1934 to 1.6 percent in 1956 and 1957. The leading states of Wisconsin and Minnesota have increased their relative shares of the total U. S. pack. These two states accounted for 62.7 percent of the Midwest pack and 43.6 percent of the U. S. pack in 1958 while Ohio accounted for only 2.5 percent of the Midwest pack and only 1.7 percent of the U. S. pack that same year.

STYLE OF CORN PACKED

The Midwestern region produces about 80 percent of the Golden Whole Kernel Sweet Corn and about 98 percent of the Cream Style White Corn. The Eastern region specializes more on the Whole Kernel Corn than on other varieties or styles. The Western region packs exclusively Golden Corn in both Whole Kernel and Cream Style with some emphasis on the latter. White and Cream Style Sweet Corn are steadily declining in importance.

GRADE

The Fancy Grade normally accounts for approximately 85 percent of the total pack with all but one or two percent of the remainder being Extra Standard Grade.

SIZE OF CAN

The size of can used for packing sweet corn has been modified greatly in recent years. From 1935 to 1946 the No. 2 can was used to pack about three-fourths of the canned sweet corn. About 1947 a rapid shift began to take place with the No. 300 and No. 303 cans replacing the No. 2 until in 1954 the reports indicate that the No. 2 can was discontinued. The 8-oz. and the 12-oz. can was used to pack nearly 25 percent of the total U. S. pack. The No. 10 can has represented about 5 percent of the pack throughout the period (Table 4).

FROZEN CORN

The Western states lead in the production of frozen sweet corn. In 1958 this area produced 48.3 percent of the Frozen Cut Corn pack and 44.2 percent of the Frozen Corn-On-Cob pack. The Midwestern region produced 25.0 percent of the Frozen Cut Corn pack and 34.6 percent of the Frozen Corn-On-Cob pack during the same year.

The United States' frozen sweet corn pack totaled 54.6 million cases in 1949 and increased to 121.4 million cases in 1958. This increase was in the form of Cut Corn packs. In 1949 Frozen Corn-On-Cob represented 32.2 percent of the U. S. total pack while in 1958 it represented only 8.6 percent (Table 5).

The 1960 end-of-month holdings of frozen sweet corn in the U. S. ranged from about 18.4 million pounds in July to 119.4 million pounds in October.

TRENDS IN SWEET CORN FOR THE FRESH MARKET

As shown earlier, nearly one-third of the nation's corn acreage is utilized as a fresh product. The wide variety of climates in the United States coupled with coast to coast shipping in refrigerated vehicles permits an almost year around supply of fresh market sweet corn throughout the country.

Florida and California each produce three seasonal crops during the year. Florida's crops are in Winter, Early Spring, and Fall, while California's crops are produced in Late Spring, Early Summer, and of less importance, Fall. Ohio and the other Central states have their crops during Late Summer (Figure 14).

In 1959 Ohio ranked fifth among the states producing sweet corn for the fresh market with about 8 percent of the national production. In 1954, Ohio produced only 4 percent of the U. S. sweet corn for the fresh market. The other leading states in 1959 were: Florida with 22 percent, California with 11 percent, New York and New Jersey each with about 10 percent. The trend in acreage produced for fresh market is presented in Figure 15 for Ohio, Pennsylvania, and Michigan.

that of sweet corn for processing as shown previously in Figure 11.

TRENDS IN SWEET CORN CONSUMPTION

Sweet corn consumption in the United States increased from about 15 pounds per capita in 1937 to nearly 25 pounds in 1958. About one-third of this has been consumed as a fresh product throughout the period. Canned sweet corn accounted for about two-thirds of the total consumption in the early part of period but only about 55 percent in the latter part. Frozen sweet corn consumption increased from 0.9 percent in 1937 to 11.6 percent in 1958 (Table 7).

PRODUCTION - CONSUMPTION BALANCE

The 1960 Ohio population was 9,706,397 and total sweet corn production was 144,100,000 pounds or 14.8 pounds per capita. Production of sweet corn for processing in Ohio was 3.4 pounds per capita -- about one-fifth the U. S. average consumption of processed sweet corn. However, the Ohio per capita production of sweet corn for fresh market was approximately 1.4 times as great as U. S. per capita consumption.

Even though Ohio apparently has become a net exporter of fresh market sweet corn during the past decade she still received out-of-season shipments primarily from the states of Florida, California, and New Jersey. Table 8 shows the number of carlots of of sweet corn received at the Cleveland markets during the 1954-1959 period. These figures include both local and out-of-state shipments. It may be noted that all rail shipments originated outside of Ohio while about 88 percent of the truck shipments originated within Ohio in 1955.

CONCLUSIONS

A shift in the production of sweet corn for processing from Ohio to Wisconsin and Minnesota has been apparent since about 1920. However, it is only since 1940 that the shift has been accompanied by great declines in production in Ohio.

The reasons for this shift include the greater relative advantage of competing crops, especially

Table 7

Civilian Per Capita Consumption of Sweet Corn in the United States: 1937 – 1958

Year	Total Pounds Consumed[1]	Percent Fresh	Percent Canned	Percent Frozen	Percent of Total Vegetable Consumption
1937	15.08	33.8	65.3	0.9	9.2
1938	15.50	33.5	65.9	0.6	9.1
1939	16.11	31.7	67.3	1.0	9.2
1940	17.11	32.7	66.1	1.2	9.5
1941	18.42	33.7	65.4	0.9	10.2
1942	21.07	31.8	66.9	1.3	10.9
1943	19.97	31.5	68.0	0.5	10.7
1944	19.87	33.7	64.0	2.3	10.2
1945	22.57	35.0	62.6	2.4	10.2
1946	24.16	31.9	65.5	2.6	10.8
1947	23.53	32.7	62.9	4.4	11.4
1948	22.27	39.1	56.6	4.3	11.2
1949	20.90	36.4	59.1	4.5	10.8
1950	21.78	35.4	60.6	4.0	11.0
1951	21.25	35.8	58.2	6.0	10.6
1952	21.70	35.9	56.6	7.5	10.9
1953	22.78	34.2	57.6	8.2	11.4
1954	23.51	36.2	56.2	7.6	12.0
1955	23.91	34.7	56.4	8.9	12.0
1956	24.45	33.5	55.2	11.3	12.1
1957	23.89	32.6	57.0	10.4	11.9
1958	24.89	33.7	54.7	11.6	12.5

[1]Fresh On-Cob Equivalent Weight

SOURCE: "The Vegetable Situation", TVS-134, October 1959, AMS-USDA

Table 8

Carlot Receipts of Sweet Corn at Cleveland and Cincinnati, Ohio, By Type of Shipment: 1959 – 1954

	1959	1958	1957	1956	1955	1954
CLEVELAND						
Rail Receipts	218	245	221	271	218	234
Truck Receipts (carlot equiv.)	807	972	524	480	383	374
Total Carlot Receipts	1025	1217	745	751	601	608
CINCINNATI						
Rail Receipts	273	216	239	310	315	337
Truck Receipts (carlot equiv.)	311	284	246	206	176	170
Total Carlot Receipts	584	500	485	516	491	507

SOURCE: "Carlot Unloads of Fresh Fruits and Vegetables", Annual Summaries for Cleveland and Cincinnati, 1954 – 59, U.S.D.A.

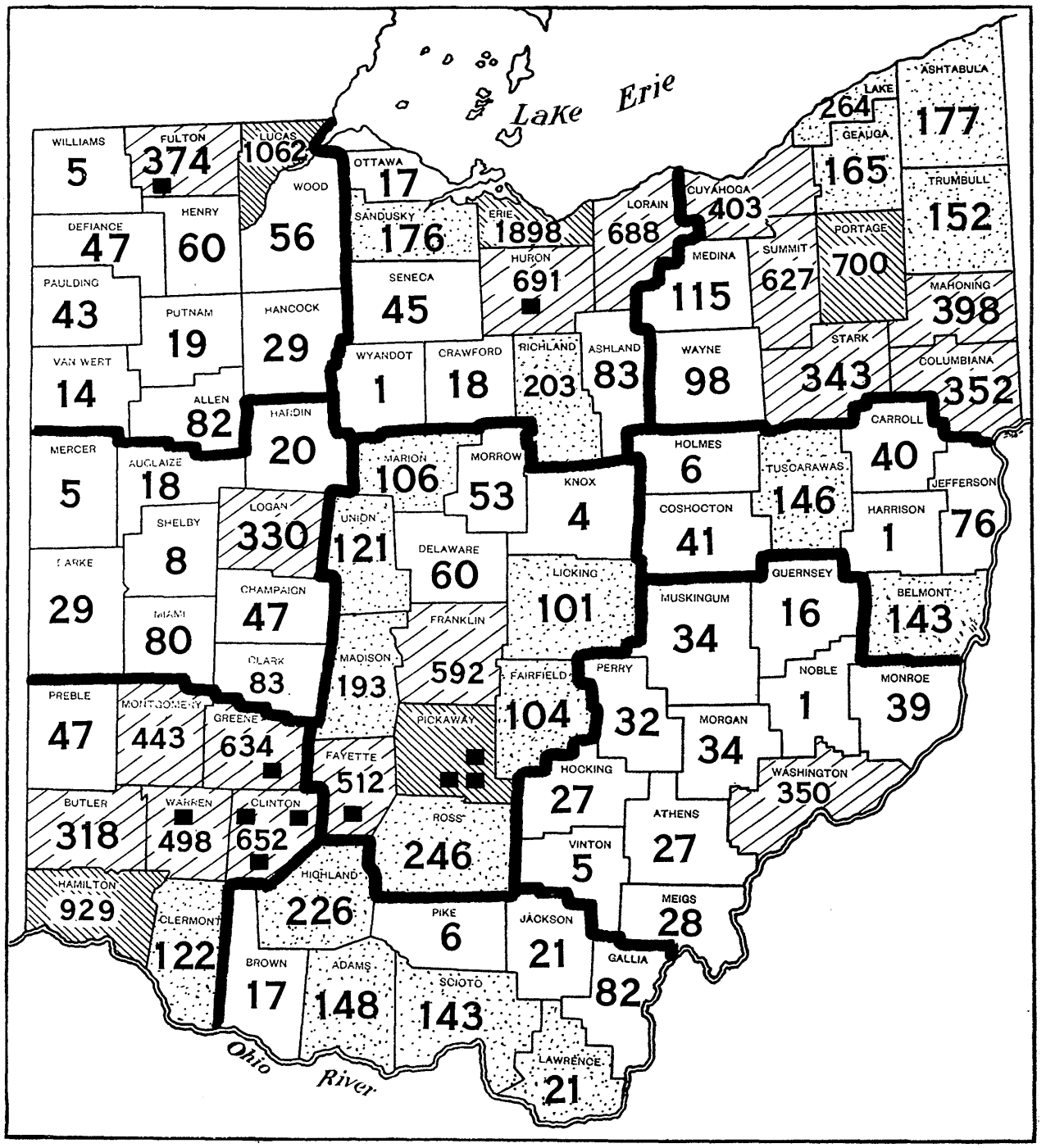
field corn and soybeans in Ohio than in Minnesota and Wisconsin. Climatic conditions, especially cooler temperature at harvest, also tend to favor the more northern states.

In sweet corn for the fresh market, production in Ohio has about doubled during the past ten years. This increase is considerably greater than that in other nearby states. The reasons for this greater increase in Ohio production are not clear. Yields in Ohio have been about average. Ohio farm prices, on the other hand, have been above those in most nearby states. It would appear from this and other evidence that the advantage is market oriented and not due primarily to advantages in production. However, in Ohio as elsewhere, the trend toward greater efficiency through larger acreage per grower continues. The grower who obtains the higher yields and cultivates the larger acreage is also better able to take advantage of new technology in marketing.

Ohio growers of fresh sweet corn as well as wholesalers and retailers have been supplying an increaseing amount of sweet corn for consumers. Personal observation indicates that they are constantly improving the quality of the product. However, there is still a great deal of room for improvement in the production and marketing techniques of many growers and dealers. It is in this area, and in the supplying of consumers with a higher quality and more reliable supply of fresh sweet corn, that the future growth of this industry depends. The present advantage of Ohio producers of fresh sweet corn will decrease as better methods of precooling and refrigeration are used but in the foreseeable future the producers near the market will have a significant market advantage. This advantage to the Ohio producers can only be realized by the farmer or group of farmers delivering a more satisfactory product to the retailer and consumer than that delivered by competitors.

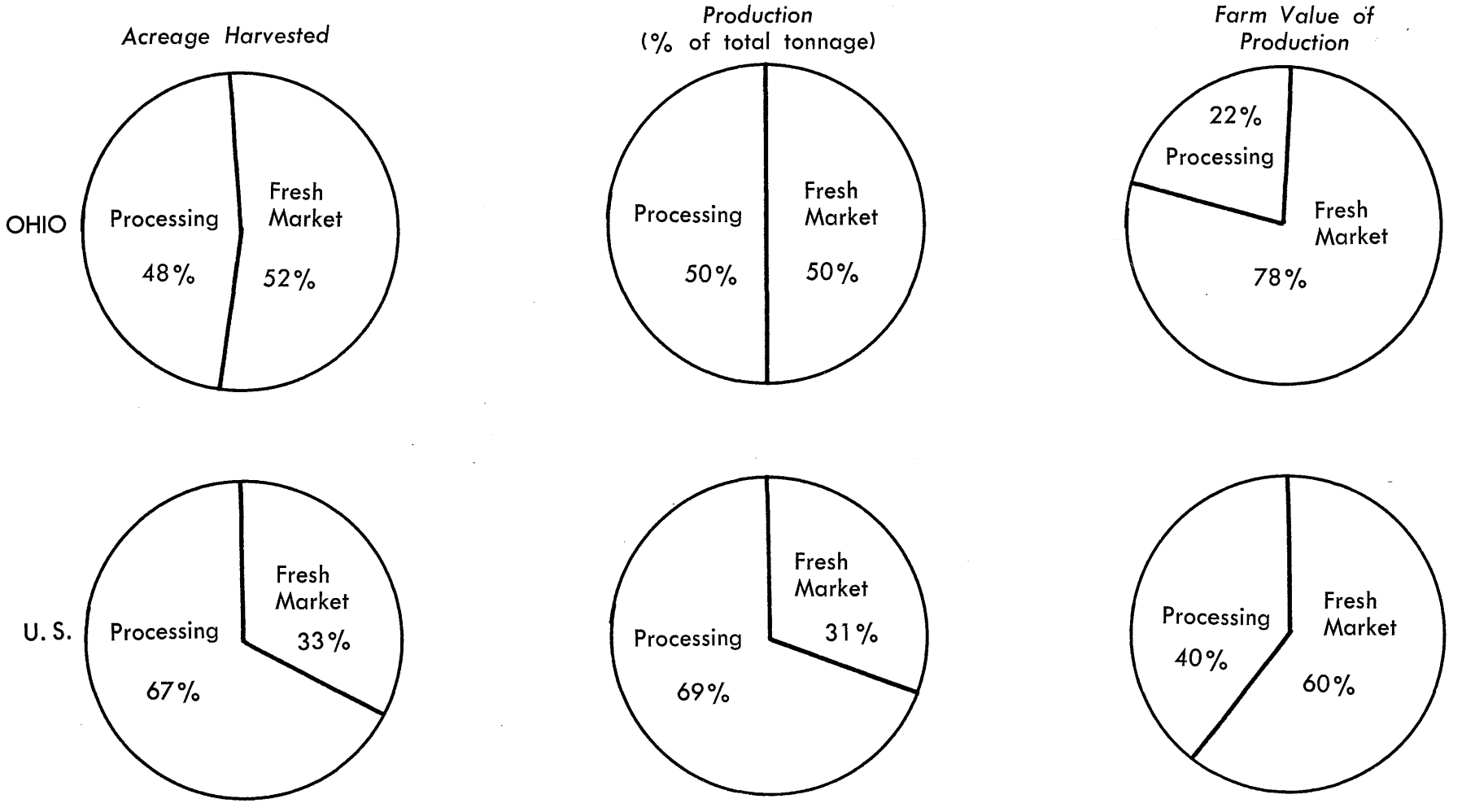
APPENDIX

Fig. 1.–Total 1955 Acreage of Sweet Corn in Ohio by Counties and Locations of Processing Plants (1955)



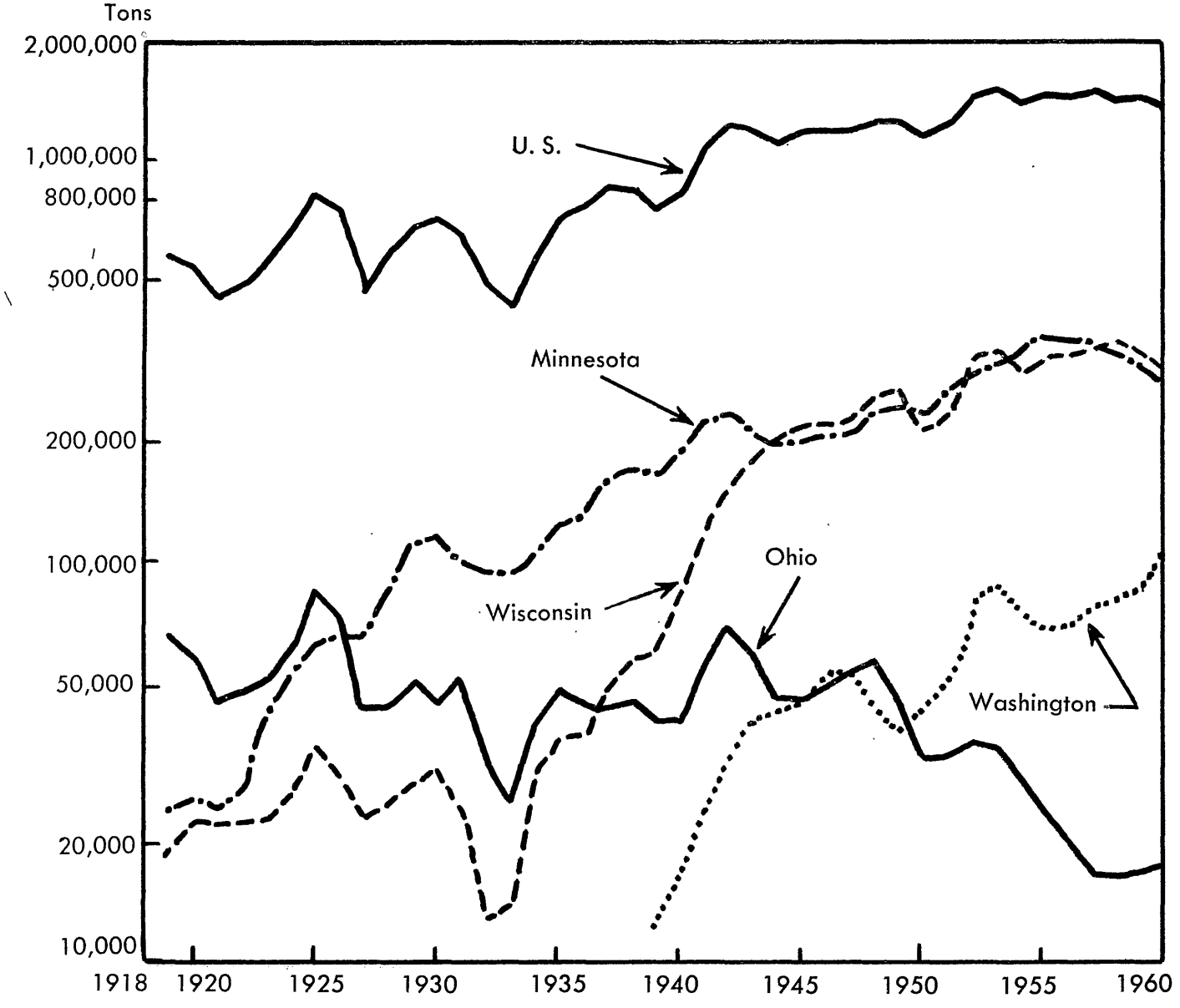
SOURCE: 1955 Agriculture Census, Ohio Preliminary

Fig. 2.–Sweet Corn: Acreage, Production, and Farm Value for the United States and Ohio: 1953-1955



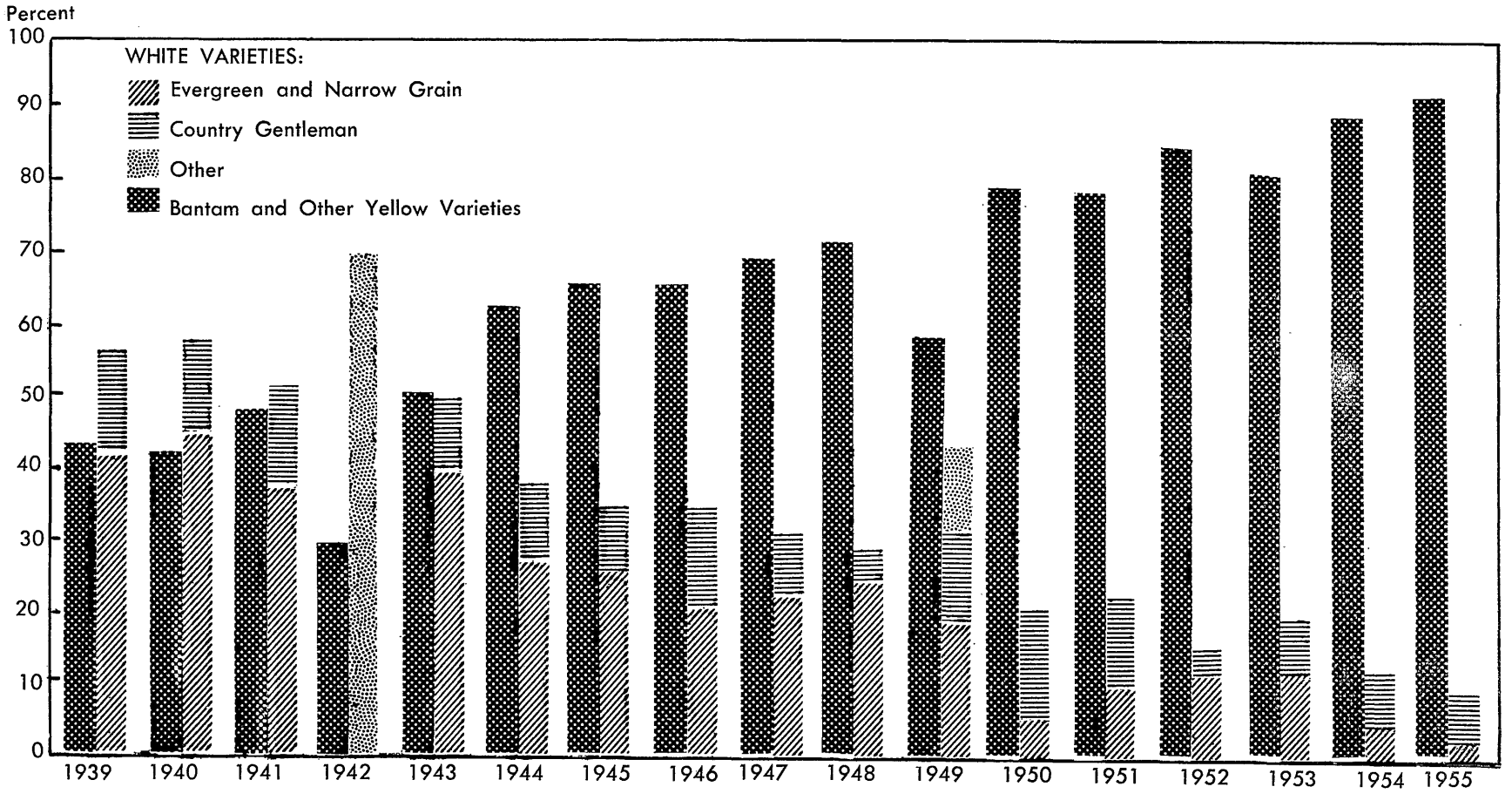
SOURCE: Commercial Vegetables, for Processing and for Fresh Market, Annual Summaries 1953-1955 – U.S.D.A.

Fig. 3.—Sweet Corn Production For Commercial Processing, U.S., Ohio, Minnesota, Wisconsin, and Washington, 1919-1960. (3 year moving average except 1960 which is actual production).



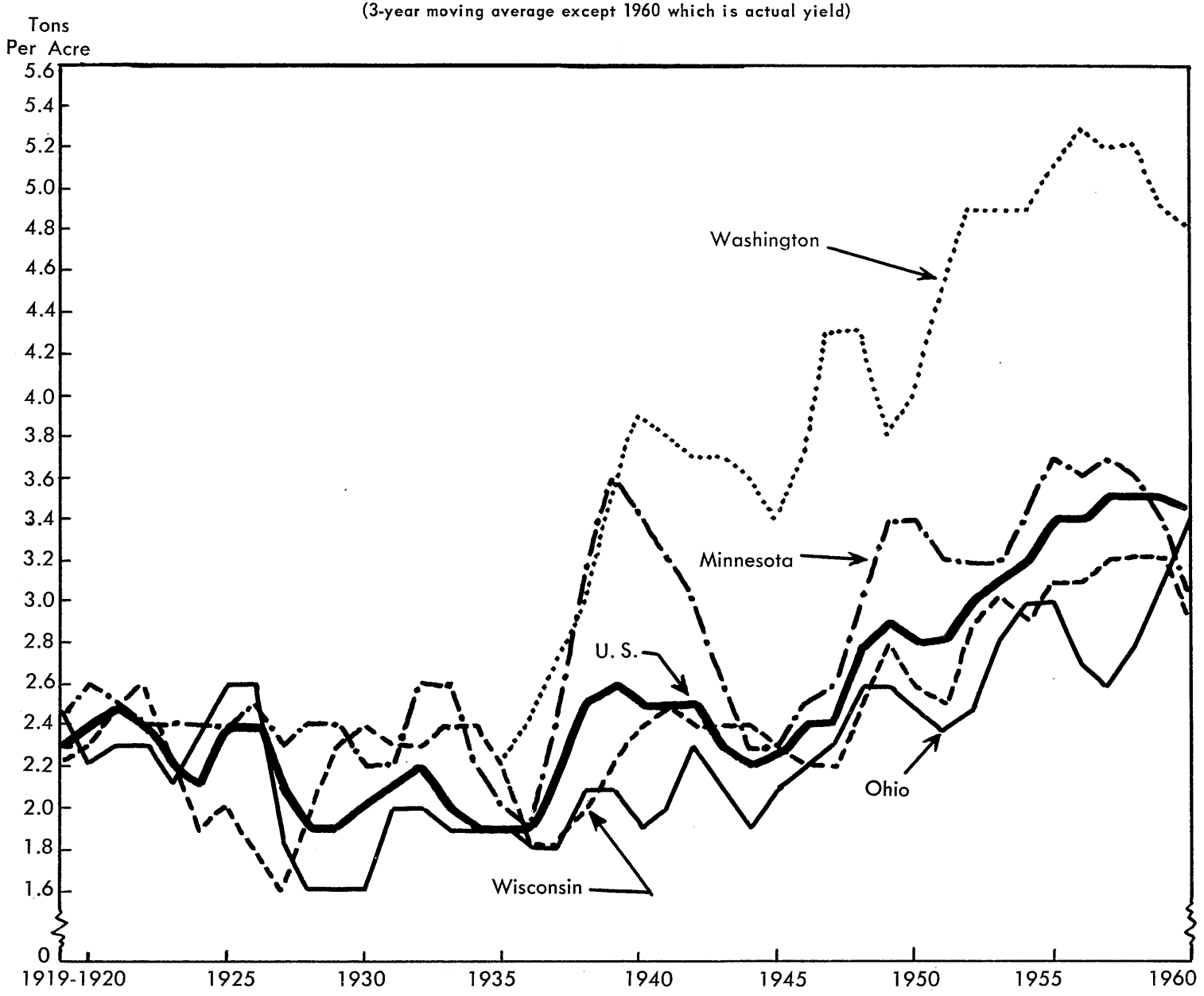
SOURCE: Commercial Vegetables – Processing Bulletin No. 132 and Annual Summaries 1951-1960, U.S.D.A.

Fig. 4.–Percent of Total Acreage Planted to Sweet Corn in Ohio for Processing, by Type and Varieties: 1939-1955

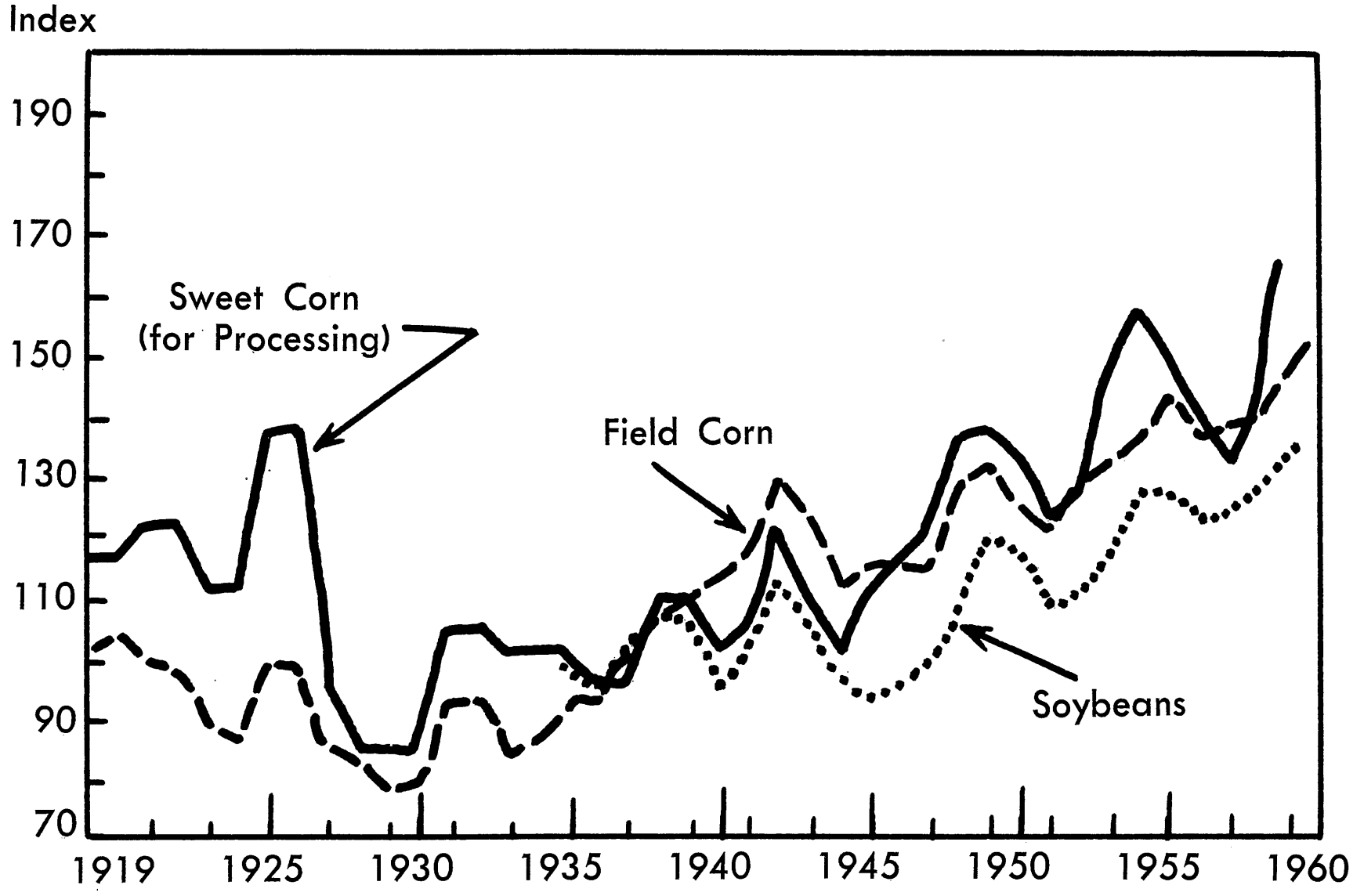


SOURCE: Commercial Vegetables, Processing, Statistical Bulletin No. 132, June 1953, BAE, U.S.D.A. and General Summary of Preliminary Planted Acreage, Released June 15, 1951-1955, AMS – U.S.D.A.

Fig. 5.–Trends in Yield Per Acre of Sweet Corn for Processing: 1919-1960
(3-year moving average except 1960 which is actual yield)

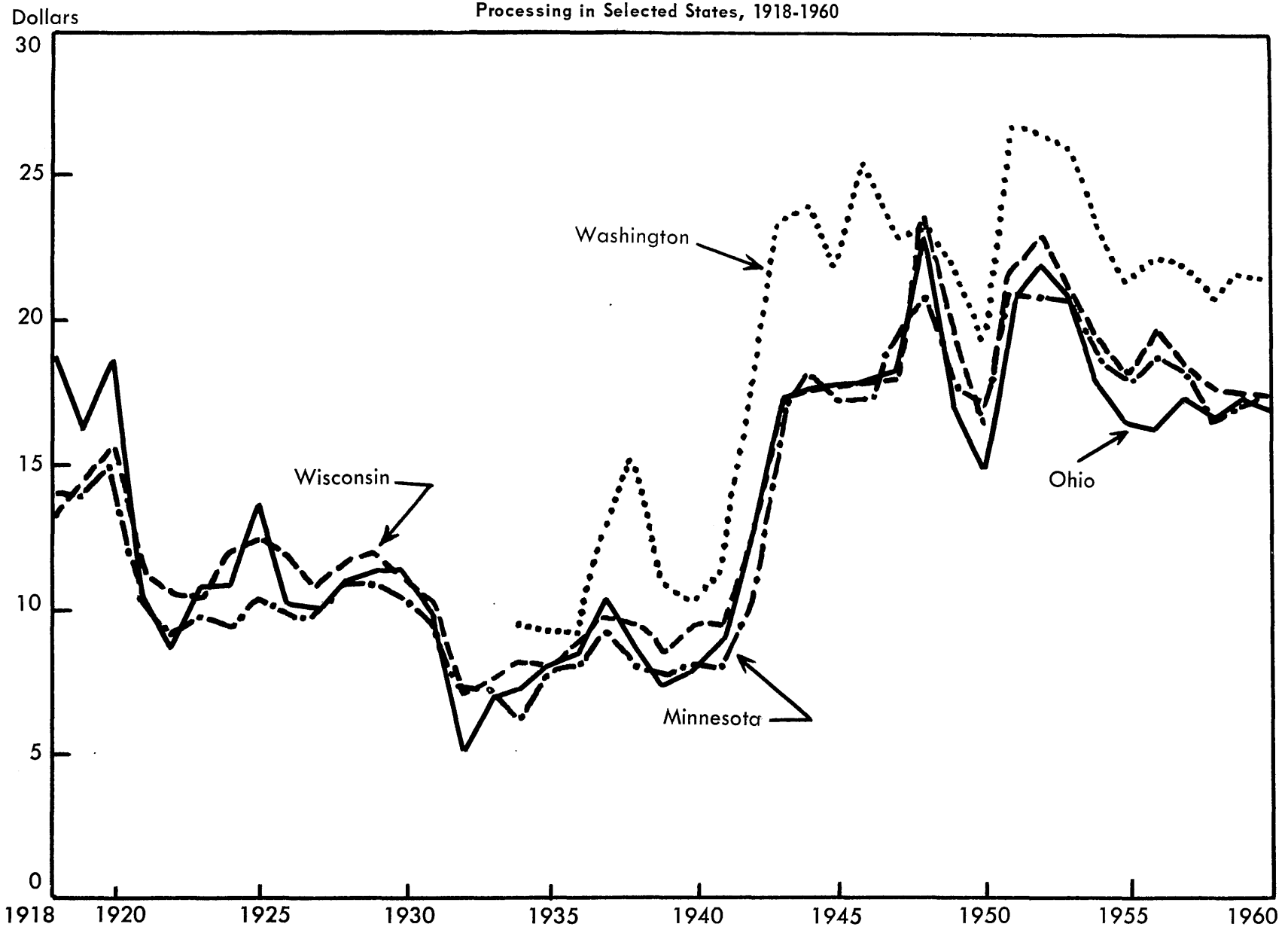


SOURCE: Commercial Vegetables, Processing, Bulletin No. 132, and Annual Summaries 1951-1955, U.S.D.A.



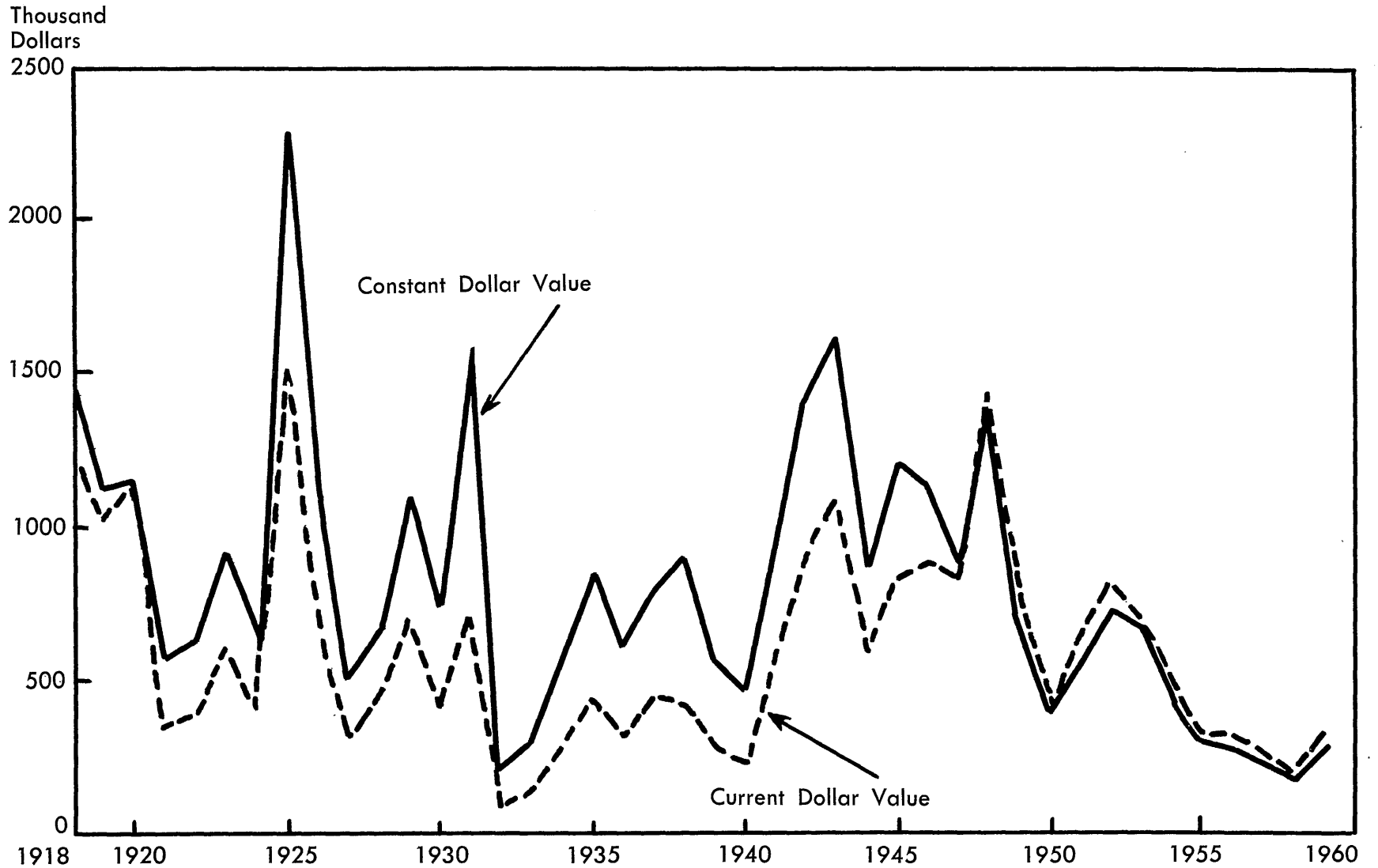
SOURCE: Ohio Agricultural Statistics and Commercial Vegetables for Processing, Annual Summaries, U.S.D.A., 1919-1959

Fig. 7.–Season Average Price Per Ton Received by Growers of Sweet Corn for Processing in Selected States, 1918-1960



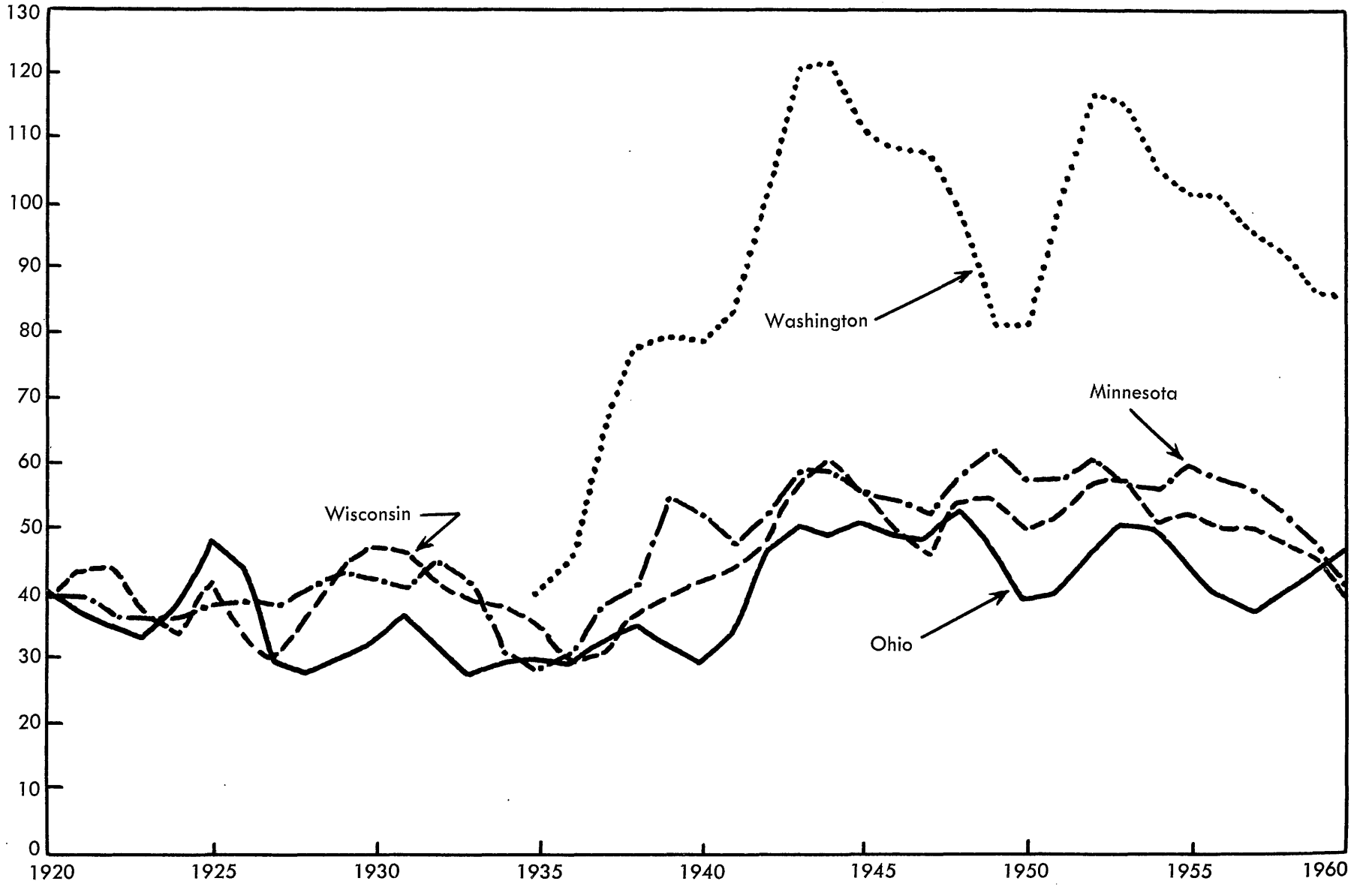
SOURCE: Commercial Vegetables – Processing Bulletin No. 132, June 1953 and Annual Summaries 1951-1960, U.S.D.A.

Fig. 8.—Sweet Corn for Processing: Current and Constant Dollars Value of Production in Ohio, 1918-1959. (Adjusted by the Wholesale Price Index, 1947-1949 = 100)



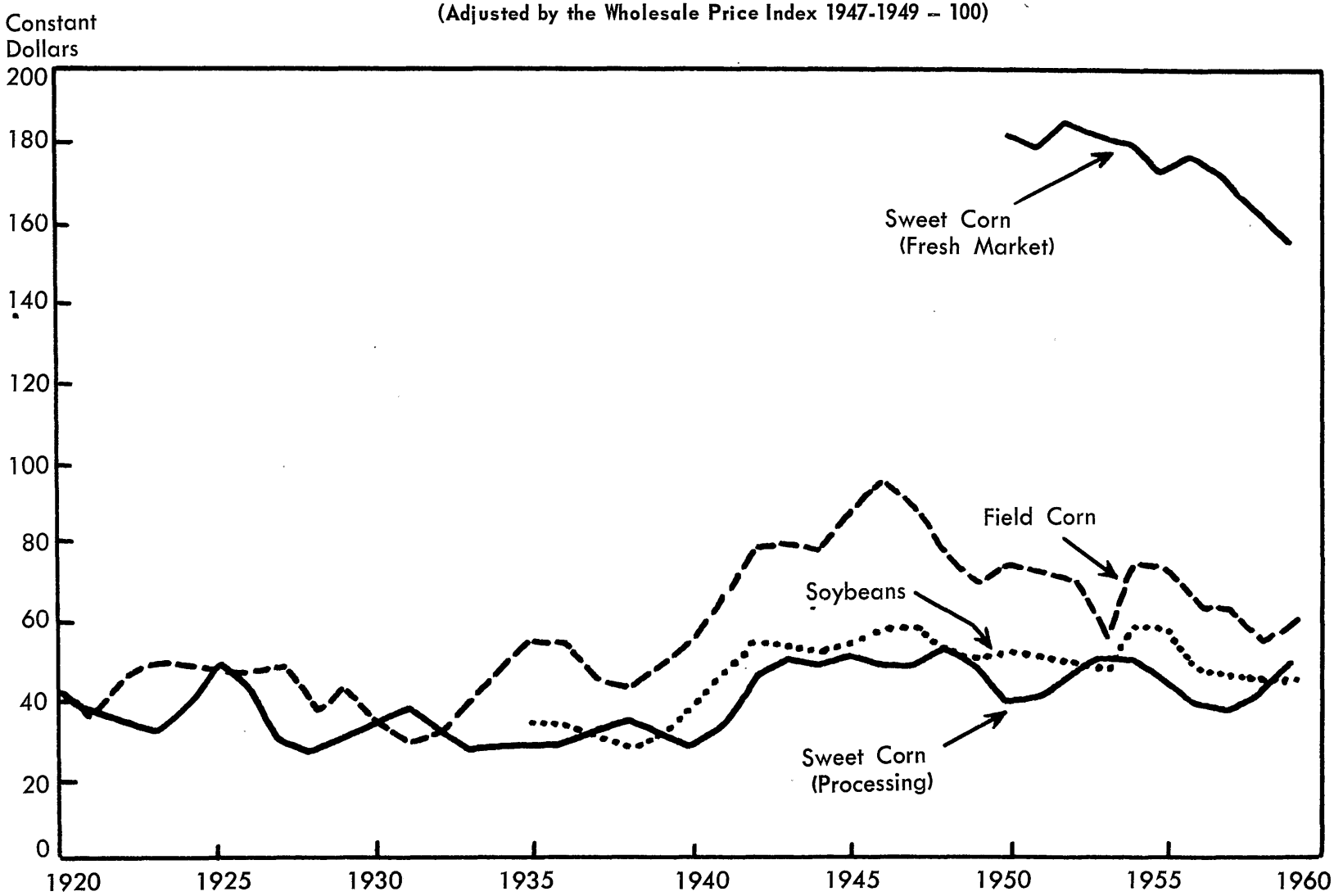
SOURCE: Commercial Vegetables – Processing, Bulletin No. 132, June 1953, and Annual Summaries 1951-1955, U.S.D.A.

Fig. 9.—Sweet Corn for Processing: Value Per Acre, Ohio, Minnesota, Wisconsin, and Washington, 1920-1960
(3-year moving average except 1960)
(Adjusted by the Wholesale Price Index, 1947-1949 = 100)



SOURCE: Commercial Vegetables, Processing, Bulletin No. 132 and Annual Summaries 1951-1960, Agricultural Statistics – 1937-1955

Fig. 10.—Value Per Acre of Selected Crops in Ohio, 1920-1959
3 Year Moving Average (Except 1959)
(Adjusted by the Wholesale Price Index 1947-1949 -- 100)



SOURCE: Commercial Vegetables for Processing and Fresh Market Annual Summaries, 1956-1959, Revised Bulletin No. 212 for Years 1949-1955

Fig. 11.—Distribution of the Retail Price of the No. 2 Can of Sweet Corn: 1920-1959. (Current Price Spreads)

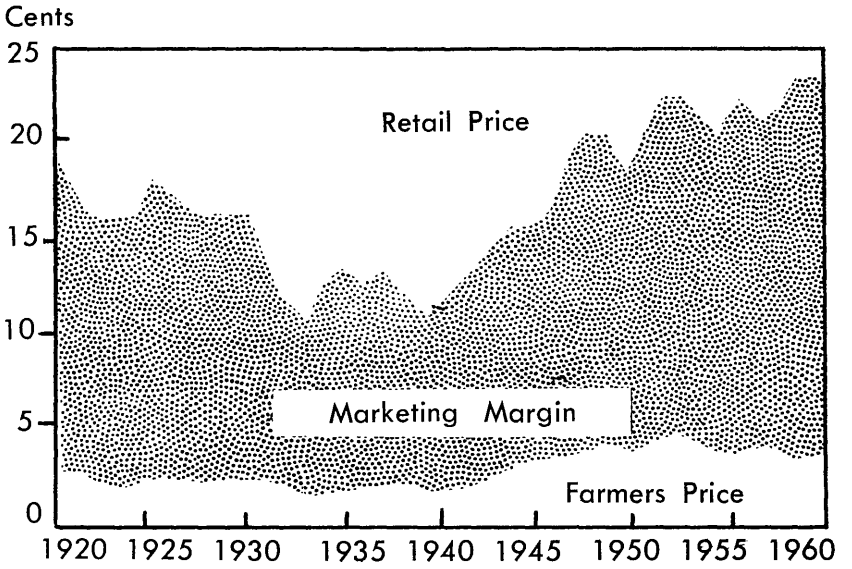
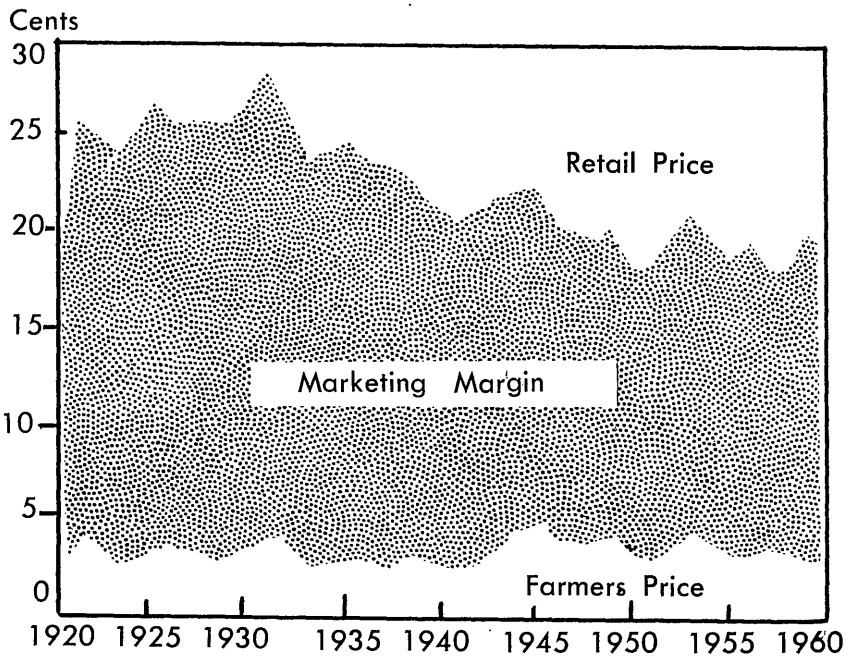


Fig. 12.—Distribution of the Retail Price of the No. 2 Can of Sweet Corn: 1920-1959. (Price Spreads Adjusted by the 1947-1949 Wholesale Price Index)



SOURCE: The Marketing Transportation Situation Annual Summaries, A.M.S., January Editions U.S.D.A.

Fig. 13.–Packs of Sweet Corn in the United States, by Areas, 1906-1958. Basis: Cases of 24 No. 303 Cans. (3-year moving average except 1958)

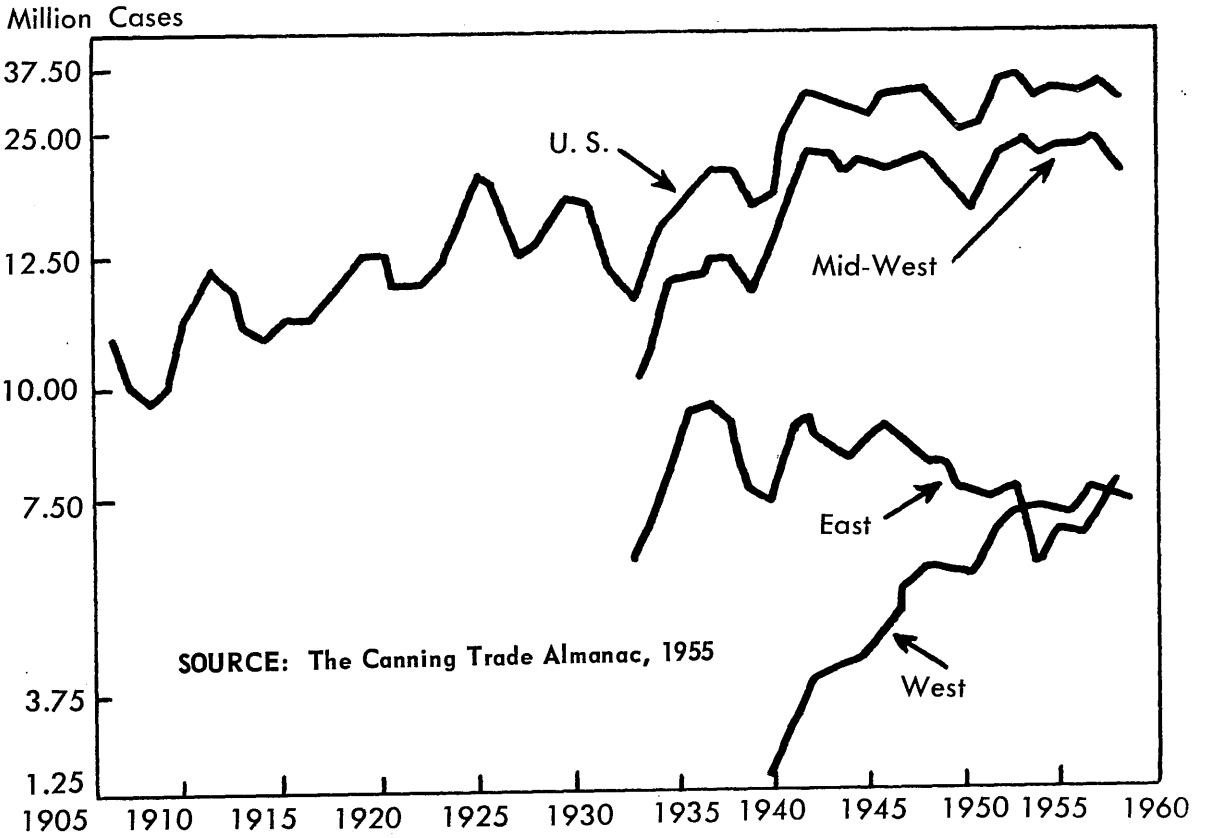


Fig. 14.–Seasonal Crops of Sweet Corn for Fresh Market by States

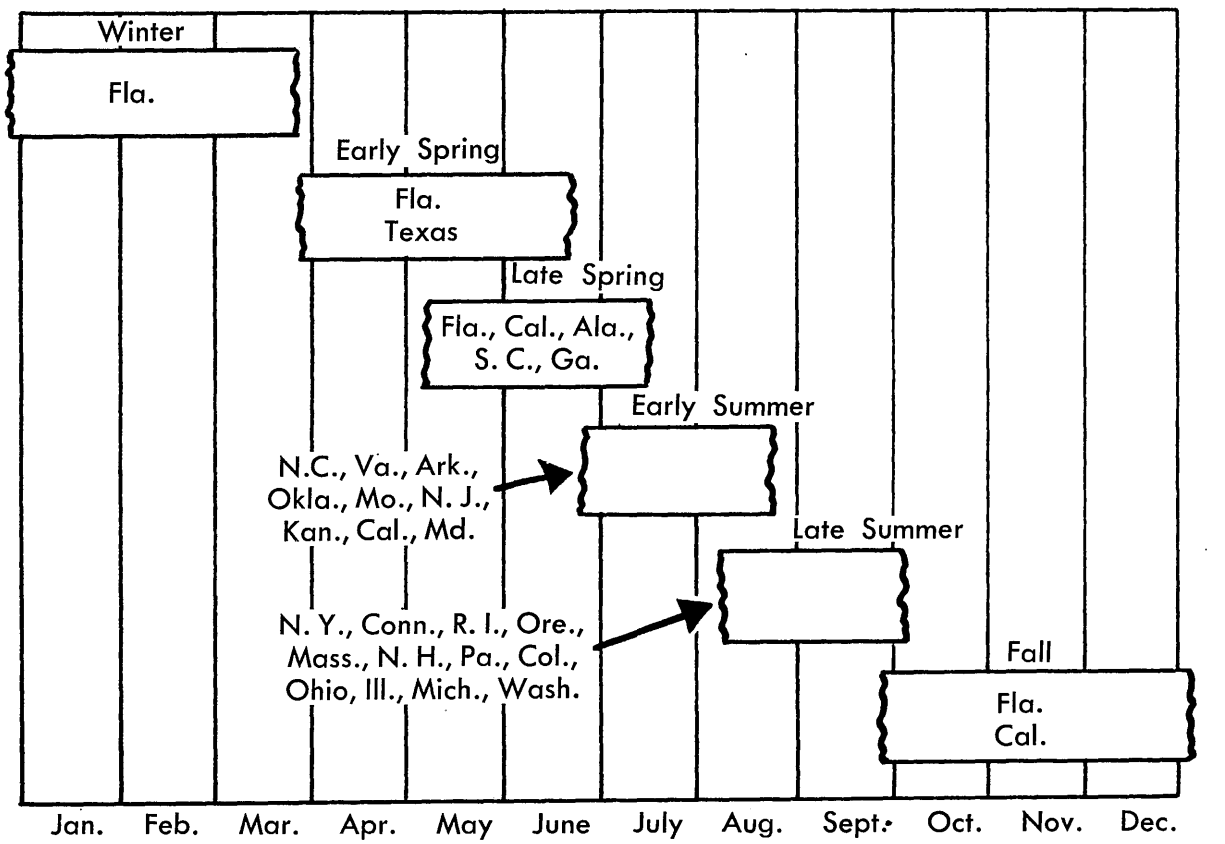


Fig. 15.–Sweet Corn Acreage for Fresh Market, by Selected States, 1949-1960

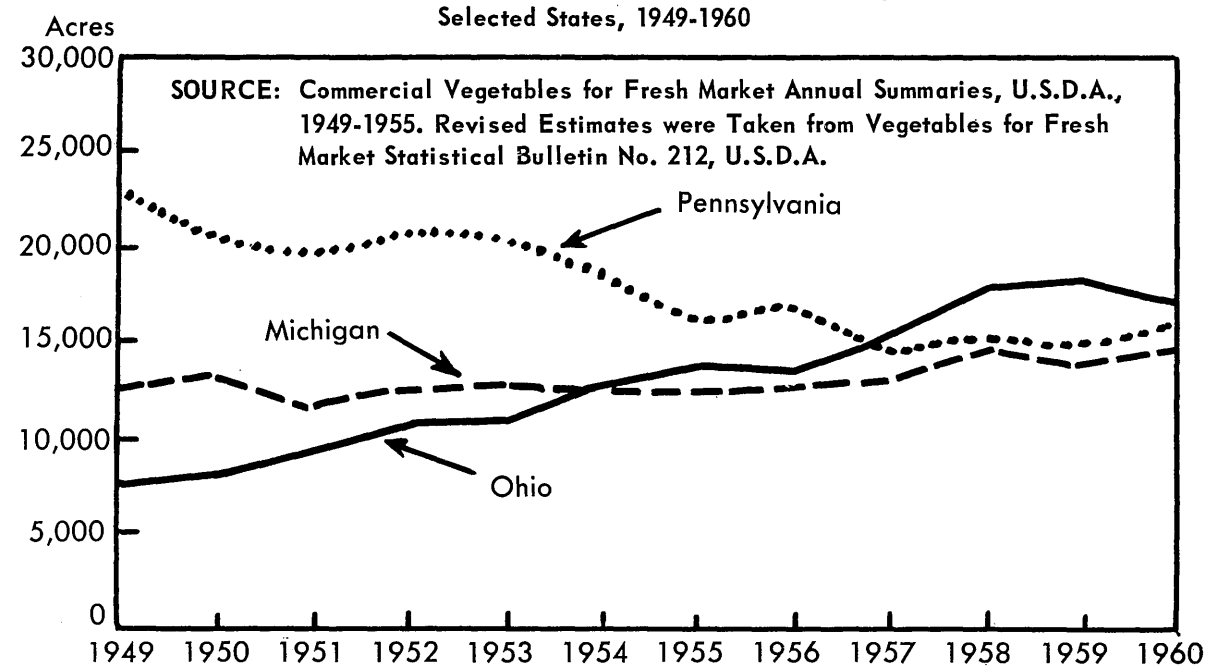
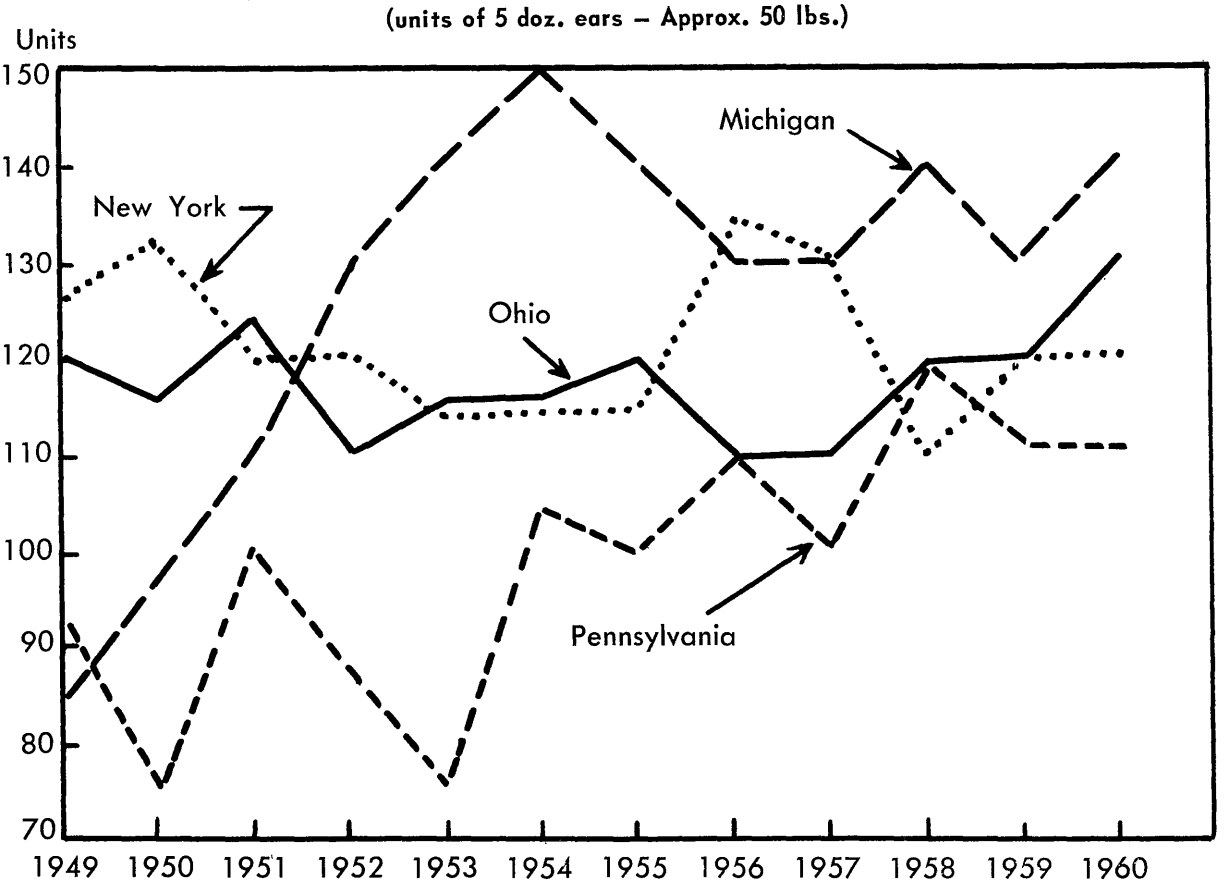


Fig. 16.–Yield Per Acre of Sweet Corn for Fresh Market – 1949-1960
(units of 5 doz. ears – Approx. 50 lbs.)



SOURCE: Commercial Vegetables for Fresh Market, Annual Summaries – Bureau of Agricultural Economics, U.S.D.A., 1949-1955. Revised Estimates in Statistical Bulletin No. 212, U.S.D.A. for Fresh Market Vegetables

Fig. 17.—Prices Per Five Dozen Ears Received by Growers of Fresh Market Sweet Corn: 1950-1960

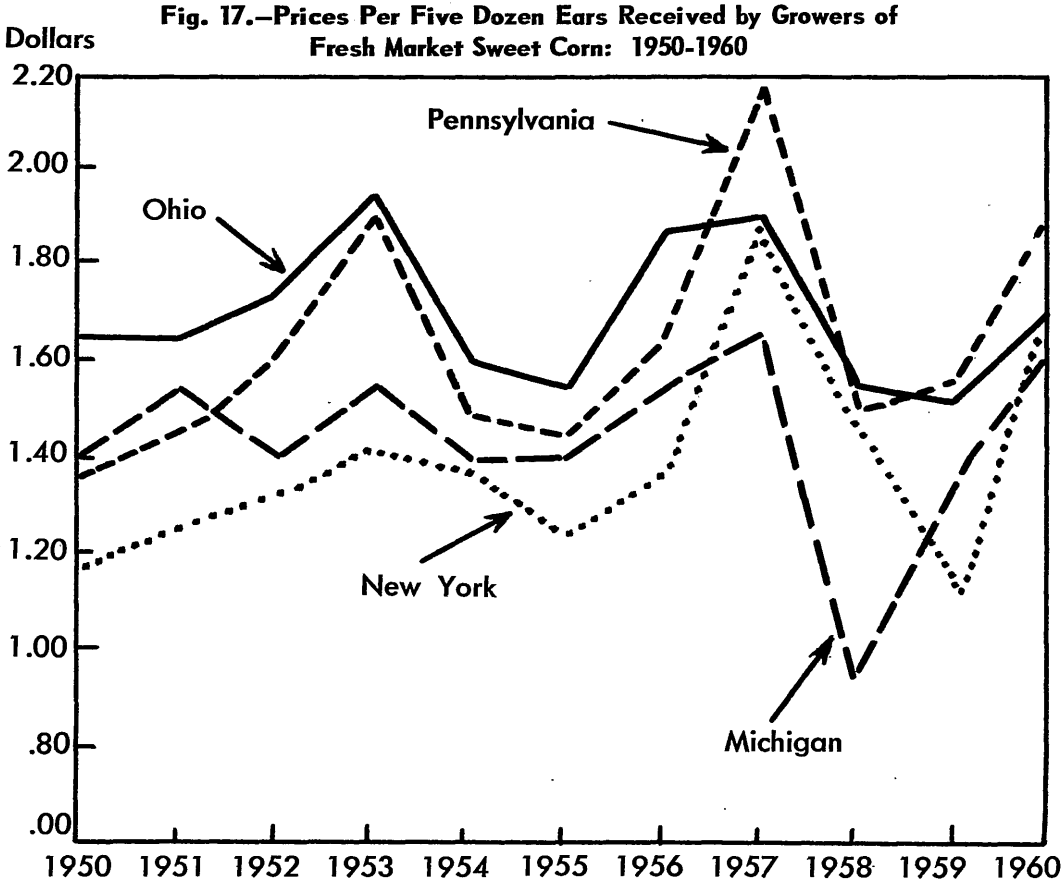


Fig. 18.—Price Per Dozen of Non-Iced Local Sweet Corn on the Cleveland, Ohio Market: 1959-1960

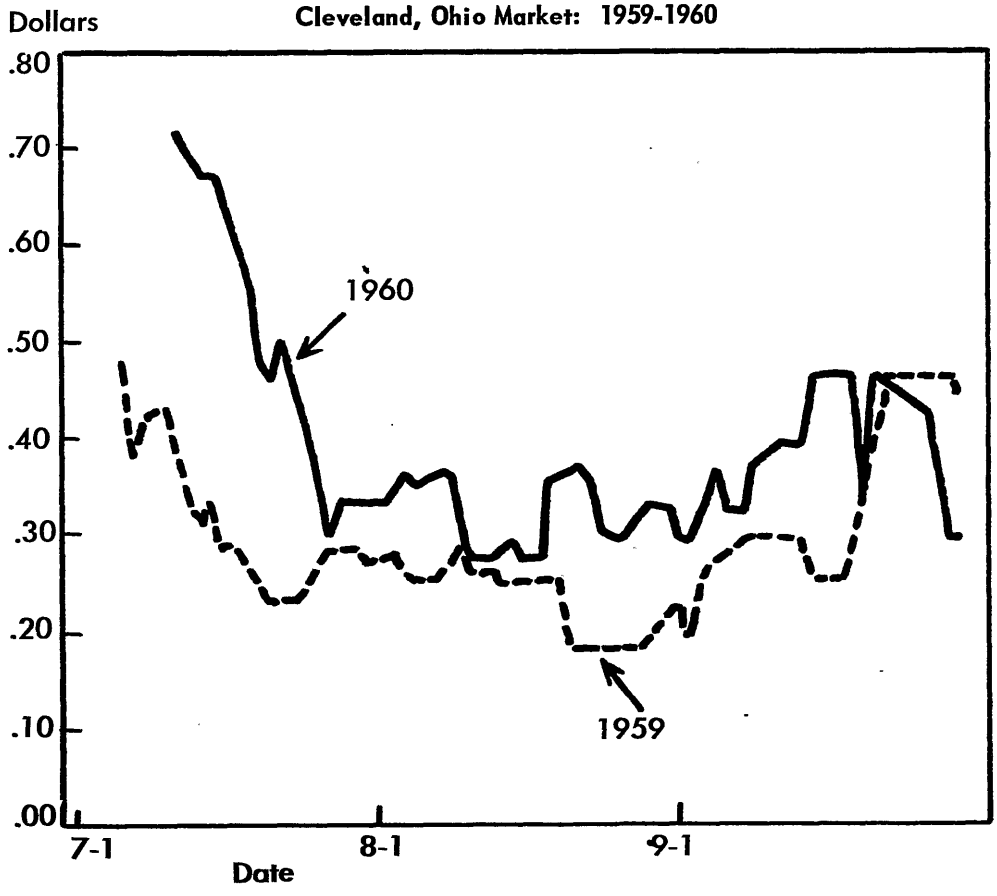


Fig. 19.—Price Per Dozen of Local Iced Fresh Sweet Corn on the Cincinnati, Ohio Market: 1959-1960

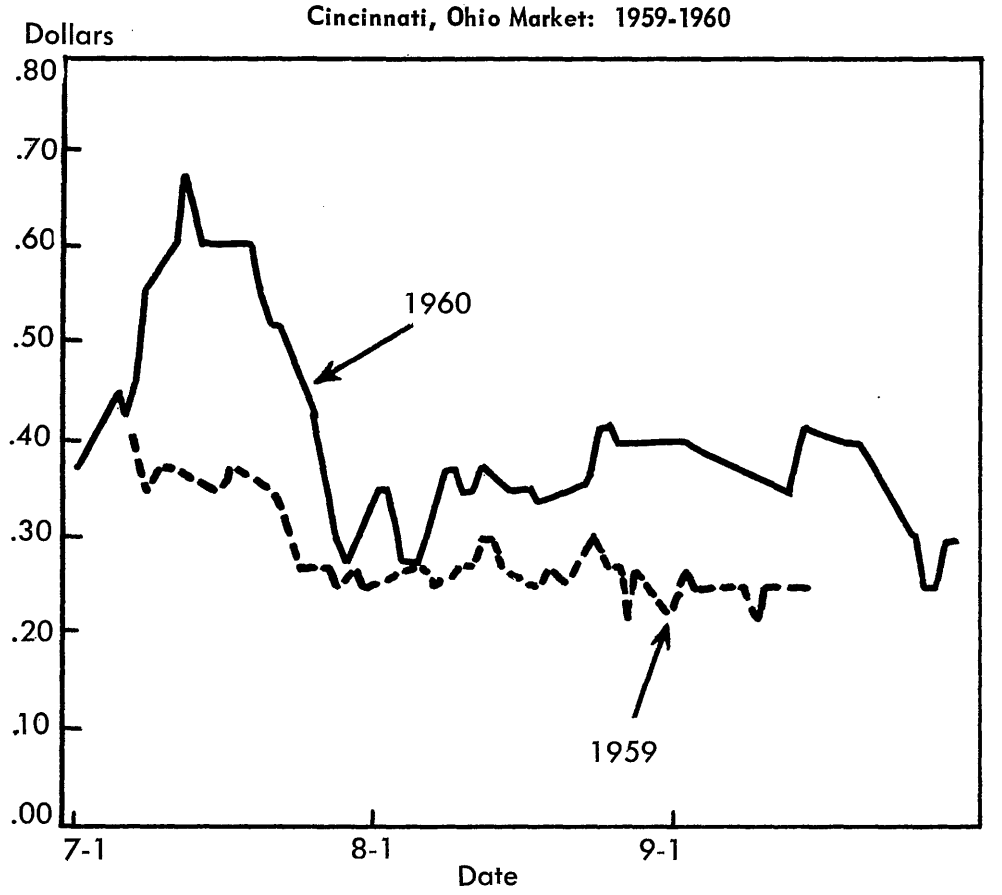


Fig. 20.—Price Per Dozen of Local Iced Fresh Sweet Corn on the Columbus, Ohio Market: 1959-1960

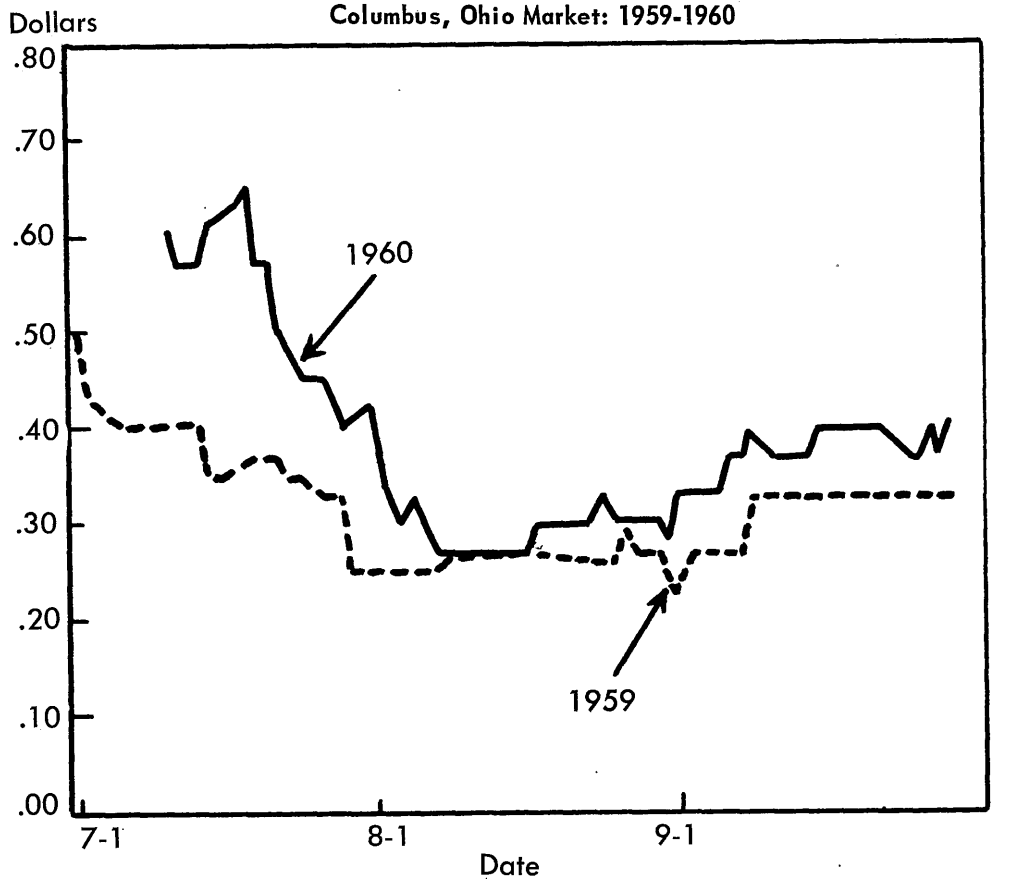


Fig. 21.–Price Per Dozen of Local Iced and Non-Iced Fresh Sweet Corn on the Columbus, Ohio Market; 1960

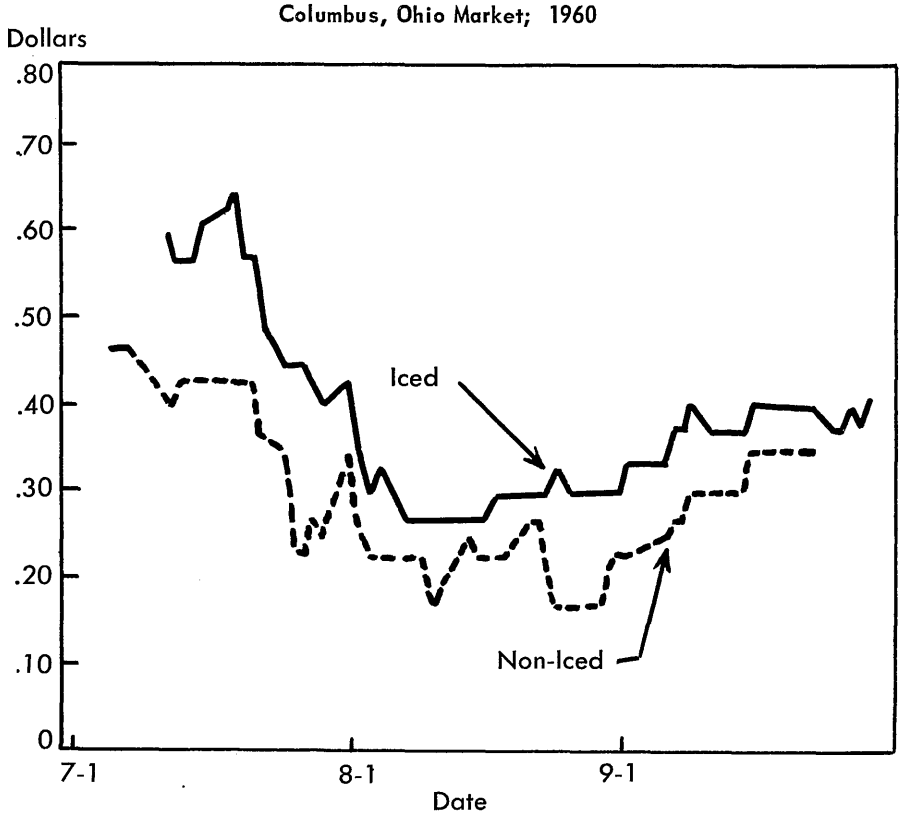


Fig. 22.–Harvested Acreage of Sweet Corn and Value of Production (1947-1949 Dollars) in the United States 1918-1959

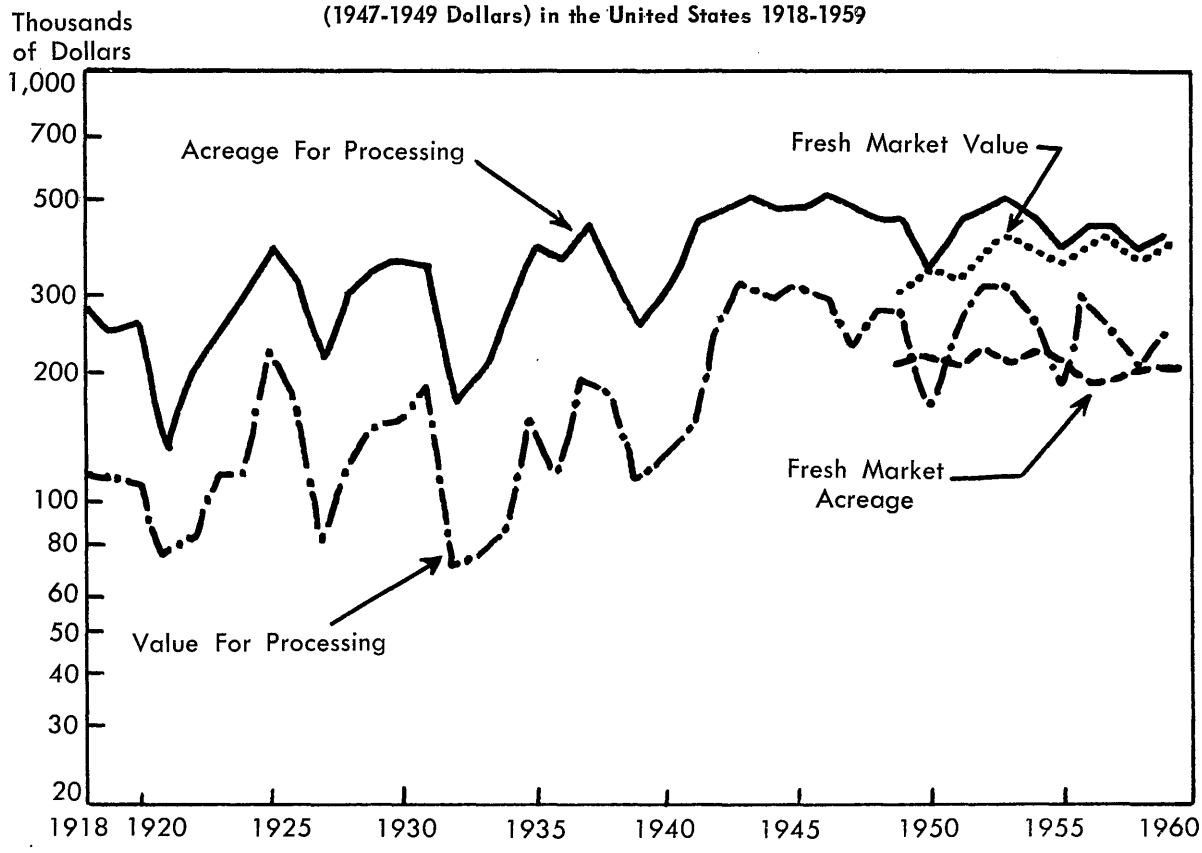


Fig. 23.—Value and Production of Ohio Fresh Market Sweet Corn – 1949-1959

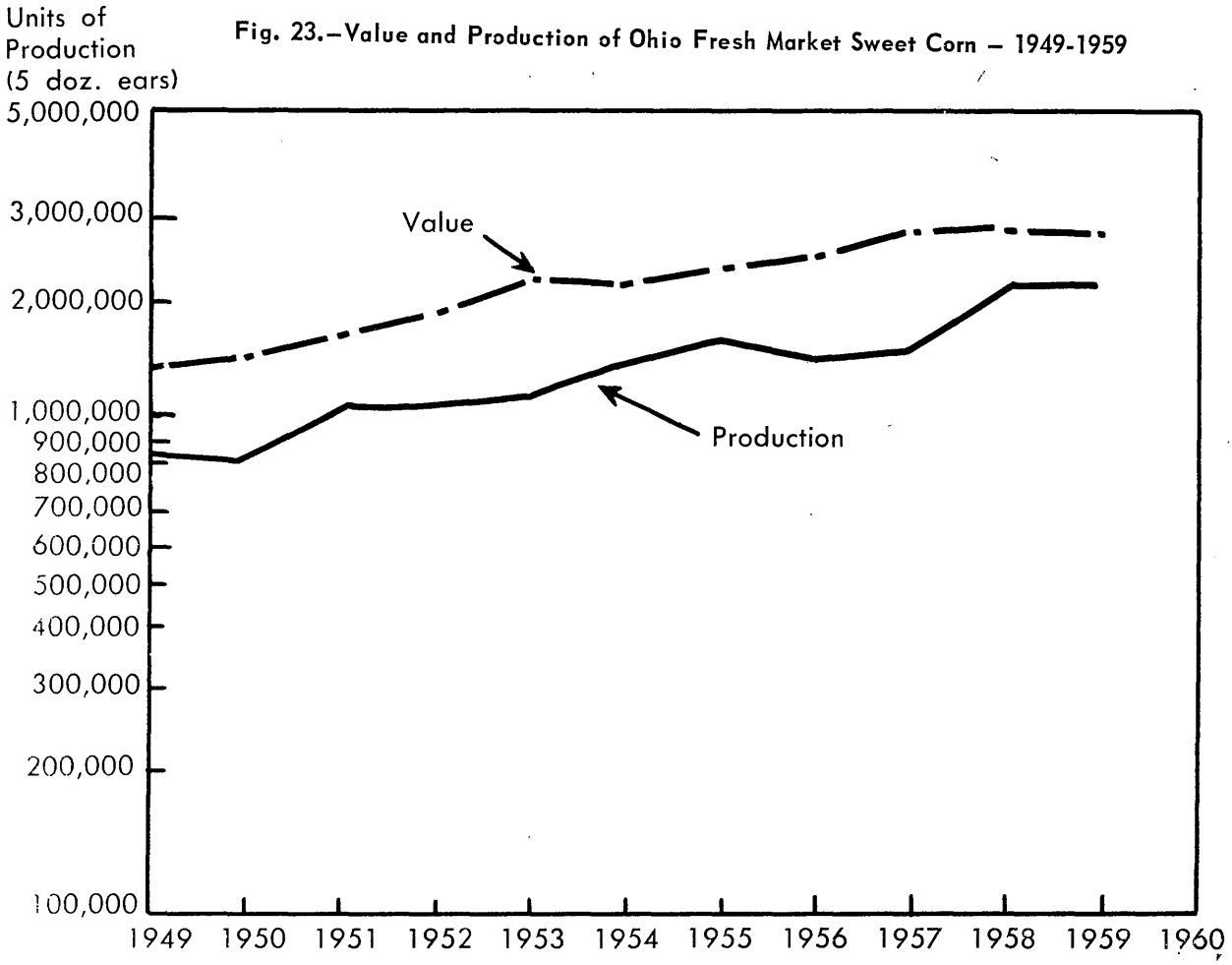
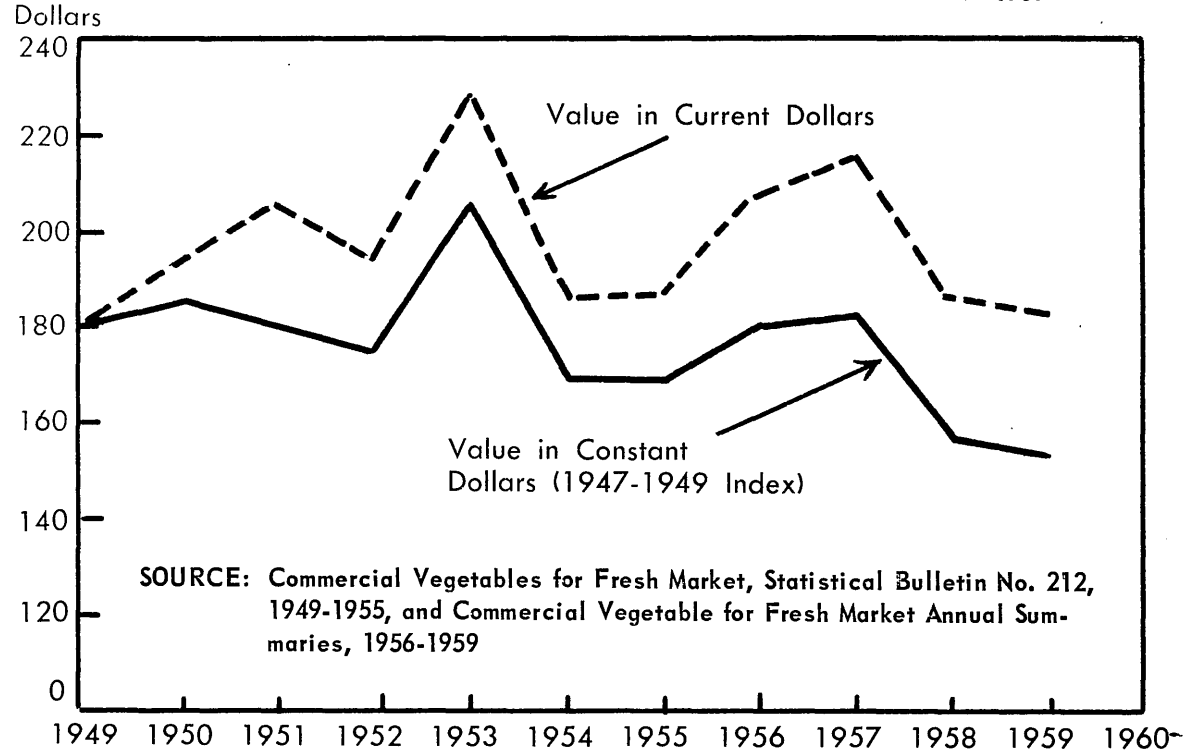


Fig. 24.—Value Per Acre of Fresh Market Sweet Corn in Ohio – 1949-1959



SOURCE: Commercial Vegetables for Fresh Market, Statistical Bulletin No. 212, 1949-1955, and Commercial Vegetable for Fresh Market Annual Summaries, 1956-1959